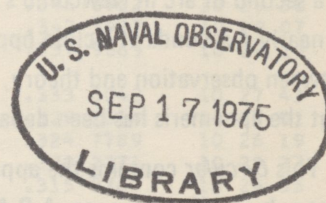


UNITED STATES NAVAL OBSERVATORY

CIRCULAR NO. 151

U. S. Naval Observatory, Washington, D. C. 20390

February 14, 1975



APPARENT EPHEMERIS OF MARS 1960 - 1980

by

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and

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PREFACE

The present ephemeris of Mars appearing in the *Astronomical Ephemeris* and in the *American Ephemeris and Nautical Almanac* (both commonly referred to as the A.E.), is based on the theory of Simon Newcomb, A.P.A.E. Vol. VI, Part 4, 1898, as amended by Ross, A.P.A.E., Vol. IX, Part 2, 1917. An error of about $2/3$ of a second of arc in Newcomb's value for the eccentricity of Mars produces an error in the geocentric place of nearly 4 seconds at a close opposition. The empirical corrections of Ross largely remove the discrepancy between observation and theory, but damage the gravitational basis of Newcomb's theory with the result that the ephemeris has been departing from the true position of Mars by increasing amounts.

This *Circular* contains the apparent ephemeris of Mars derived from the precise general perturbation theory by G. M. Clemence, A.P.A.E. Vol. XI, Part 2, 1949, and Vol. XVI, Part 2, 1961. The elements of Mars used in this *Circular* are from column A of Table 4 of Laubscher, *Astron. & Astrophys.* 13, p. 426, 1971. The solar coordinates used to produce this ephemeris are consistent with Newcomb's Tables of the Sun, A.P.A.E. Vol. VI, Part 1, 1898, as currently given in the A.E. This *Circular* has been produced to provide a more precise ephemeris of Mars from 1960 until 1980 at which time new planetary ephemerides based on a revised system of astronomical constants are anticipated.

The format of the data is similar to that of the A.E., only the differences have been omitted. The columns from left to right are Date, Apparent Right Ascension, Apparent Declination, Horizontal Parallax, Semidiameter, True Distance from the Earth, and Ephemeris Transit. When there are two ephemeris transits on a single date, the time of the second transit is given at the bottom of the page.

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
	H	M	S	O	'	"	"	"	AU	H M S
JAN.	1	17 17	41.67	-23 27	24.8		3.67	1.95	2.396 9862	10 38 43
	2	17 20	51.97	23 31	07.6		3.67	1.96	.392 9373	10 37 57
	3	17 24	02.62	23 34	36.4		3.68	1.96	.388 8597	10 37 11
	4	17 27	13.61	23 37	51.0		3.69	1.96	.384 7548	10 36 26
	5	17 30	24.92	23 40	51.3		3.69	1.97	.380 6229	10 35 40
	6	17 33	36.55	-23 43	37.3		3.70	1.97	2.376 4650	10 34 56
	7	17 36	48.48	23 46	08.9		3.71	1.97	.372 2821	10 34 11
	8	17 40	00.70	23 48	25.9		3.71	1.98	.368 0745	10 33 27
	9	17 43	13.21	23 50	28.5		3.72	1.98	.363 8432	10 32 43
	10	17 46	25.99	23 52	16.4		3.73	1.98	.359 5886	10 32 00
	11	17 49	39.03	-23 53	49.6		3.73	1.99	2.355 3114	10 31 16
	12	17 52	52.32	23 55	08.1		3.74	1.99	.351 0122	10 30 33
	13	17 56	05.85	23 56	11.7		3.75	1.99	.346 6912	10 29 50
	14	17 59	19.60	23 57	00.5		3.75	2.00	.342 3493	10 29 07
	15	18 02	33.56	23 57	34.4		3.76	2.00	.337 9869	10 28 25
	16	18 05	47.72	-23 57	53.4		3.77	2.01	2.333 6042	10 27 43
	17	18 09	02.07	23 57	57.3		3.78	2.01	.329 2014	10 27 01
	18	18 12	16.60	23 57	46.2		3.78	2.01	.324 7789	10 26 19
	19	18 15	31.28	23 57	20.0		3.79	2.02	.320 3371	10 25 37
	20	18 18	46.12	23 56	38.7		3.80	2.02	.315 8760	10 24 55
	21	18 22	01.10	-23 55	42.2		3.80	2.02	2.311 3960	10 24 14
	22	18 25	16.21	23 54	30.6		3.81	2.03	.306 8969	10 23 32
	23	18 28	31.43	23 53	03.9		3.82	2.03	.302 3792	10 22 51
	24	18 31	46.74	23 51	21.9		3.83	2.04	.297 8429	10 22 10
	25	18 35	02.14	23 49	24.8		3.83	2.04	.293 2881	10 21 29
	26	18 38	17.60	-23 47	12.5		3.84	2.04	2.288 7152	10 20 48
	27	18 41	33.11	23 44	45.1		3.85	2.05	.284 1249	10 20 07
	28	18 44	48.65	23 42	02.5		3.86	2.05	.279 5173	10 19 26
	29	18 48	04.21	23 39	04.8		3.87	2.06	.274 8930	10 18 45
	30	18 51	19.75	23 35	51.9		3.87	2.06	.270 2529	10 18 04
FEB.	31	18 54	35.28	-23 32	24.0		3.88	2.07	2.265 5977	10 17 23
	1	18 57	50.77	23 28	40.9		3.89	2.07	.260 9281	10 16 42
	2	19 01	06.22	23 24	42.7		3.90	2.07	.256 2449	10 16 01
	3	19 04	21.62	23 20	29.5		3.91	2.08	.251 5490	10 15 19
	4	19 07	36.94	23 16	01.3		3.91	2.08	.246 8410	10 14 38
	5	19 10	52.18	-23 11	18.1		3.92	2.09	2.242 1216	10 13 57
	6	19 14	07.33	23 06	20.0		3.93	2.09	.237 3917	10 13 15
	7	19 17	22.37	23 01	07.1		3.94	2.10	.232 6516	10 12 34
	8	19 20	37.30	22 55	39.3		3.95	2.10	.227 9022	10 11 52
	9	19 23	52.10	22 49	56.8		3.96	2.11	.223 1437	10 11 10
	10	19 27	06.77	-22 43	59.6		3.96	2.11	2.218 3770	10 10 28
	11	19 30	21.28	22 37	47.8		3.97	2.11	.213 6025	10 09 46
	12	19 33	35.63	22 31	21.5		3.98	2.12	.208 8204	10 09 04
	13	19 36	49.81	22 24	40.7		3.99	2.12	.204 0312	10 08 22
	14	19 40	03.81	22 17	45.4		4.00	2.13	.199 2354	10 07 39
	15	19 43	17.63	-22 10	35.9		4.01	2.13	2.194 4328	10 06 56
	16	19 46	31.25	22 03	12.0		4.02	2.14	.189 6242	10 06 13
	17	19 49	44.66	21 55	34.0		4.03	2.14	.184 8092	10 05 30
	18	19 52	57.87	21 47	42.0		4.03	2.15	.179 9882	10 04 47
	19	19 56	10.85	21 39	36.0		4.04	2.15	.175 1609	10 04 03
	20	19 59	23.60	-21 31	16.1		4.05	2.16	2.170 3277	10 03 19
	21	20 02	36.12	21 22	42.4		4.06	2.16	.165 4886	10 02 35
	22	20 05	48.38	21 13	55.2		4.07	2.17	.160 6434	10 01 51
	23	20 09	00.38	21 04	54.4		4.08	2.17	.155 7927	10 01 06
	24	20 12	12.10	20 55	40.3		4.09	2.18	.150 9366	10 00 21
	25	20 15	23.54	-20 46	12.9		4.10	2.18	2.146 0753	9 59 36
	26	20 18	34.68	20 36	32.4		4.11	2.19	.141 2092	9 58 50
	27	20 21	45.51	20 26	38.9		4.12	2.19	.136 3390	9 58 04
	28	20 24	56.03	20 16	32.5		4.13	2.20	.131 4649	9 57 18
	29	20 28	06.23	20 06	13.3		4.14	2.20	.126 5877	9 56 32
MAR.	1	20 31	16.10	-19 55	41.6		4.14	2.21	2.121 7082	9 55 45

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.		
	H	M	S	O	I	°	°	°	AU	H	M	S
MAR.	2	20	34	25.64	-19	44	57.4	4.15	2.21	2.116	8268	9 54 58
	3	20	37	34.84	19	34	00.8	4.16	2.22	.111	9443	9 54 10
	4	20	40	43.69	19	22	52.1	4.17	2.22	.107	0610	9 53 23
	5	20	43	52.20	19	11	31.3	4.18	2.23	.102	1778	9 52 35
	6	20	47	00.36	18	59	58.6	4.19	2.23	.097	2949	9 51 46
	7	20	50	08.16	-18	48	14.2	4.20	2.24	2.092	4133	9 50 57
	8	20	53	15.60	18	36	18.2	4.21	2.24	.087	5329	9 50 08
	9	20	56	22.68	18	24	10.8	4.22	2.25	.082	6546	9 49 18
	10	20	59	29.39	18	11	52.0	4.23	2.25	.077	7784	9 48 28
	11	21	02	35.74	17	59	22.2	4.24	2.26	.072	9047	9 47 38
	12	21	05	41.72	-17	46	41.4	4.25	2.26	2.068	0342	9 46 47
	13	21	08	47.33	17	33	49.7	4.26	2.27	.063	1667	9 45 56
	14	21	11	52.58	17	20	47.4	4.27	2.27	.058	3024	9 45 05
	15	21	14	57.46	17	07	34.5	4.28	2.28	.053	4416	9 44 13
	16	21	18	01.98	16	54	11.3	4.29	2.28	.048	5841	9 43 21
	17	21	21	06.14	-16	40	37.9	4.30	2.29	2.043	7297	9 42 28
	18	21	24	09.94	16	26	54.4	4.31	2.30	.038	8785	9 41 36
	19	21	27	13.37	16	13	01.2	4.32	2.30	.034	0303	9 40 42
	20	21	30	16.44	15	58	58.2	4.33	2.31	.029	1847	9 39 49
	21	21	33	19.14	15	44	45.9	4.34	2.31	.024	3421	9 38 55
	22	21	36	21.47	-15	30	24.2	4.35	2.32	2.019	5022	9 38 00
	23	21	39	23.44	15	15	53.4	4.36	2.32	.014	6649	9 37 06
	24	21	42	25.02	15	01	13.8	4.38	2.33	.009	8303	9 36 11
	25	21	45	26.24	14	46	25.4	4.39	2.33	.004	9987	9 35 15
	26	21	48	27.07	14	31	28.5	4.40	2.34	2.000	1700	9 34 19
	27	21	51	27.54	-14	16	23.2	4.41	2.35	1.995	3448	9 33 23
	28	21	54	27.62	14	01	09.8	4.42	2.35	.990	5235	9 32 27
	29	21	57	27.34	13	45	48.4	4.43	2.36	.985	7061	9 31 30
	30	22	00	26.68	13	30	19.2	4.44	2.36	.980	8932	9 30 32
	31	22	03	25.66	13	14	42.4	4.45	2.37	.976	0856	9 29 35
APR.	1	22	06	24.27	-12	58	58.2	4.46	2.37	1.971	2832	9 28 37
	2	22	09	22.52	12	43	06.8	4.47	2.38	.966	4863	9 27 38
	3	22	12	20.40	12	27	08.3	4.48	2.39	.961	6958	9 26 39
	4	22	15	17.93	12	11	03.0	4.49	2.39	.956	9115	9 25 40
	5	22	18	15.11	11	54	51.0	4.50	2.40	.952	1339	9 24 41
	6	22	21	11.94	-11	38	32.6	4.52	2.40	1.947	3634	9 23 41
	7	22	24	08.42	11	22	07.9	4.53	2.41	.942	5999	9 22 41
	8	22	27	04.56	11	05	37.1	4.54	2.42	.937	8438	9 21 40
	9	22	30	00.37	10	49	00.3	4.55	2.42	.933	0954	9 20 39
	10	22	32	55.86	10	32	17.8	4.56	2.43	.928	3547	9 19 38
	11	22	35	51.03	-10	15	29.7	4.57	2.43	1.923	6215	9 18 37
	12	22	38	45.88	9	58	36.2	4.58	2.44	.918	8960	9 17 35
	13	22	41	40.44	9	41	37.5	4.59	2.44	.914	1778	9 16 33
	14	22	44	34.70	9	24	33.8	4.61	2.45	.909	4667	9 15 31
	15	22	47	28.68	9	07	25.1	4.62	2.46	.904	7623	9 14 28
	16	22	50	22.37	- 8	50	11.9	4.63	2.46	1.900	0644	9 13 25
	17	22	53	15.78	8	32	54.2	4.64	2.47	.895	3726	9 12 22
	18	22	56	08.91	8	15	32.2	4.65	2.48	.890	6863	9 11 18
	19	22	59	01.77	7	58	06.1	4.66	2.48	.886	0055	9 10 15
	20	23	01	54.37	7	40	36.3	4.67	2.49	.881	3296	9 09 11
	21	23	04	46.69	- 7	23	02.7	4.69	2.49	1.876	6588	9 08 06
	22	23	07	38.76	7	05	25.8	4.70	2.50	.871	9927	9 07 02
	23	23	10	30.56	6	47	45.5	4.71	2.51	.867	3313	9 05 57
	24	23	13	22.11	6	30	02.2	4.72	2.51	.862	6748	9 04 52
	25	23	16	13.41	6	12	16.0	4.73	2.52	.858	0230	9 03 47
	26	23	19	04.47	- 5	54	27.2	4.74	2.53	1.853	3759	9 02 41
	27	23	21	55.29	5	36	35.8	4.76	2.53	.848	7341	9 01 35
	28	23	24	45.88	5	18	42.2	4.77	2.54	.844	0973	9 00 29
	29	23	27	36.23	5	00	46.5	4.78	2.54	.839	4658	8 59 23
	30	23	30	26.36	4	42	48.8	4.79	2.55	.834	8402	8 58 17
MAY	1	23	33	16.28	- 4	24	49.5	4.80	2.56	1.830	2198	8 57 10

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.			
		H	M	S	°	'	"	°	'	°	'	AU	H	M	S
MAY	2	23	36	05.98	-	4	06	48.6	4.82	2.56	1.825	6055	8	56	03
	3	23	38	55.47	-	3	48	46.4	4.83	2.57	.820	9970	8	54	56
	4	23	41	44.77	-	3	30	43.0	4.84	2.58	.816	3943	8	53	49
	5	23	44	33.87	-	3	12	38.7	4.85	2.58	.811	7978	8	52	41
	6	23	47	22.79	-	2	54	33.6	4.87	2.59	.807	2075	8	51	34
	7	23	50	11.52	-	2	36	27.8	4.88	2.60	1.802	6232	8	50	26
	8	23	53	00.09	-	2	18	21.6	4.89	2.60	.798	0449	8	49	18
	9	23	55	48.51	-	2	00	15.2	4.90	2.61	.793	4727	8	48	10
	10	23	58	36.77	-	1	42	08.6	4.92	2.62	.788	9064	8	47	01
	11	0	01	24.89	-	1	24	02.0	4.93	2.62	.784	3455	8	45	53
	12	0	04	12.89	-	1	05	55.7	4.94	2.63	1.779	7896	8	44	44
	13	0	07	00.76	-	0	47	49.7	4.95	2.64	.775	2383	8	43	36
	14	0	09	48.52	-	0	29	44.4	4.97	2.64	.770	6908	8	42	27
	15	0	12	36.16	-	0	11	39.7	4.98	2.65	.766	1467	8	41	18
	16	0	15	23.70	+	0	06	23.9	4.99	2.66	.761	6055	8	40	09
	17	0	18	11.13	+	0	24	26.5	5.00	2.66	1.757	0664	8	39	00
18	0	20	58.46	+	0	42	27.7	5.02	2.67	.752	5290	8	37	51	
19	0	23	45.70	+	1	00	27.4	5.03	2.68	.747	9931	8	36	42	
20	0	26	32.85	+	1	18	25.4	5.04	2.68	.743	4581	8	35	32	
21	0	29	19.91	+	1	36	21.6	5.06	2.69	.738	9236	8	34	23	
22	0	32	06.88	+	1	54	15.7	5.07	2.70	1.734	3893	8	33	13	
23	0	34	53.78	+	2	12	07.5	5.08	2.71	.729	8556	8	32	03	
24	0	37	40.61	+	2	29	57.0	5.10	2.71	.725	3219	8	30	54	
25	0	40	27.36	+	2	47	43.9	5.11	2.72	.720	7882	8	29	44	
26	0	43	14.04	+	3	05	28.0	5.12	2.73	.716	2545	8	28	34	
27	0	46	00.66	+	3	23	09.1	5.14	2.73	1.711	7207	8	27	24	
28	0	48	47.21	+	3	40	47.2	5.15	2.74	.707	1867	8	26	14	
29	0	51	33.71	+	3	58	21.9	5.16	2.75	.702	6526	8	25	04	
30	0	54	20.16	+	4	15	53.2	5.18	2.76	.698	1183	8	23	54	
31	0	57	06.55	+	4	33	20.9	5.19	2.76	.693	5838	8	22	44	
JUNE	1	0	59	52.90	+	4	50	44.7	5.21	2.77	1.689	0490	8	21	34
	2	1	02	39.21	+	5	08	04.6	5.22	2.78	.684	5139	8	20	24
	3	1	05	25.48	+	5	25	20.4	5.23	2.79	.679	9786	8	19	13
	4	1	08	11.73	+	5	42	31.9	5.25	2.79	.675	4427	8	18	03
	5	1	10	57.95	+	5	59	39.0	5.26	2.80	.670	9063	8	16	53
	6	1	13	44.16	+	6	16	41.5	5.28	2.81	1.666	3691	8	15	43
	7	1	16	30.36	+	6	33	39.3	5.29	2.82	.661	8310	8	14	32
	8	1	19	16.56	+	6	50	32.3	5.31	2.82	.657	2915	8	13	22
	9	1	22	02.76	+	7	07	20.3	5.32	2.83	.652	7503	8	12	12
	10	1	24	48.98	+	7	24	03.2	5.34	2.84	.648	2066	8	11	01
	11	1	27	35.21	+	7	40	40.9	5.35	2.85	1.643	6595	8	09	51
	12	1	30	21.46	+	7	57	13.1	5.37	2.86	.639	1090	8	08	41
	13	1	33	07.72	+	8	13	39.7	5.38	2.86	.634	5539	8	07	31
	14	1	35	54.00	+	8	30	00.6	5.40	2.87	.629	9934	8	06	21
	15	1	38	40.30	+	8	46	15.6	5.41	2.88	.625	4272	8	05	10
	16	1	41	26.63	+	9	02	24.5	5.43	2.89	1.620	8543	8	04	00
	17	1	44	12.97	+	9	18	27.3	5.44	2.90	.616	2745	8	02	50
	18	1	46	59.34	+	9	34	23.7	5.46	2.90	.611	6871	8	01	40
	19	1	49	45.73	+	9	50	13.6	5.47	2.91	.607	0919	8	00	30
	20	1	52	32.14	+	10	05	56.9	5.49	2.92	.602	4886	7	59	20
	21	1	55	18.57	+	10	21	33.4	5.50	2.93	1.597	8767	7	58	10
	22	1	58	05.01	+	10	37	02.9	5.52	2.94	.593	2562	7	57	00
	23	2	00	51.47	+	10	52	25.5	5.54	2.95	.588	6270	7	55	50
	24	2	03	37.95	+	11	07	40.8	5.55	2.95	.583	9887	7	54	40
	25	2	06	24.44	+	11	22	48.7	5.57	2.96	.579	3412	7	53	30
	26	2	09	10.93	+	11	37	49.2	5.58	2.97	1.574	6844	7	52	20
	27	2	11	57.44	+	11	52	42.1	5.60	2.98	.570	0181	7	51	10
	28	2	14	43.95	+	12	07	27.2	5.62	2.99	.565	3425	7	50	00
	29	2	17	30.46	+	12	22	04.5	5.63	3.00	.560	6573	7	48	50
	30	2	20	16.99	+	12	36	33.7	5.65	3.01	.555	9625	7	47	40
JULY	1	2	23	03.51	+	12	50	54.9	5.67	3.02	1.551	2579	7	46	30

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	O	'	"	"	"	AU		H	M	S
JULY	2	2	25	50.04	+13	05	07.8	5.69	3.03	1.546	5435	7	45	20
	3	2	28	36.58	13	19	12.4	5.70	3.04	.541	8190	7	44	10
	4	2	31	23.12	13	33	08.6	5.72	3.04	.537	0845	7	43	00
	5	2	34	09.67	13	46	56.2	5.74	3.05	.532	3397	7	41	50
	6	2	36	56.23	14	00	35.3	5.76	3.06	.527	5842	7	40	40
	7	2	39	42.80	+14	14	05.6	5.77	3.07	1.522	8176	7	39	30
	8	2	42	29.37	14	27	27.2	5.79	3.08	.518	0394	7	38	20
	9	2	45	15.95	14	40	39.9	5.81	3.09	.513	2490	7	37	10
	10	2	48	02.54	14	53	43.6	5.83	3.10	.508	4458	7	36	00
	11	2	50	49.12	15	06	38.3	5.85	3.11	.503	6286	7	34	50
	12	2	53	35.69	+15	19	23.7	5.87	3.12	1.498	7972	7	33	40
	13	2	56	22.25	15	31	59.9	5.89	3.13	.493	9506	7	32	30
	14	2	59	08.79	15	44	26.7	5.91	3.14	.489	0883	7	31	20
	15	3	01	55.31	15	56	44.1	5.93	3.15	.484	2098	7	30	10
	16	3	04	41.80	16	08	52.0	5.94	3.16	.479	3143	7	29	00
	17	3	07	28.26	+16	20	50.2	5.96	3.17	1.474	4013	7	27	50
	18	3	10	14.66	16	32	38.8	5.98	3.18	.469	4709	7	26	40
	19	3	13	01.00	16	44	17.5	6.00	3.20	.464	5226	7	25	30
	20	3	15	47.28	16	55	46.4	6.03	3.21	.459	5561	7	24	20
	21	3	18	33.48	17	07	05.5	6.05	3.22	.454	5712	7	23	09
	22	3	21	19.60	+17	18	14.5	6.07	3.23	1.449	5678	7	21	59
	23	3	24	05.61	17	29	13.4	6.09	3.24	.444	5458	7	20	49
	24	3	26	51.52	17	40	02.2	6.11	3.25	.439	5049	7	19	38
	25	3	29	37.32	17	50	40.8	6.13	3.26	.434	4453	7	18	27
	26	3	32	22.98	18	01	09.2	6.15	3.27	.429	3670	7	17	16
	27	3	35	08.51	+18	11	27.2	6.17	3.29	1.424	2695	7	16	05
	28	3	37	53.89	18	21	34.9	6.20	3.30	.419	1533	7	14	54
	29	3	40	39.12	18	31	32.2	6.22	3.31	.414	0180	7	13	43
	30	3	43	24.18	18	41	19.1	6.24	3.32	.408	8642	7	12	31
	31	3	46	09.08	18	50	55.5	6.26	3.33	.403	6912	7	11	20
AUG.	1	3	48	53.80	+19	00	21.4	6.29	3.35	1.398	4994	7	10	08
	2	3	51	38.33	19	09	36.9	6.31	3.36	.393	2887	7	08	56
	3	3	54	22.68	19	18	41.9	6.34	3.37	.388	0587	7	07	44
	4	3	57	06.82	19	27	36.3	6.36	3.38	.382	8093	7	06	31
	5	3	59	50.76	19	36	20.2	6.38	3.40	.377	5402	7	05	19
	6	4	02	34.47	+19	44	53.7	6.41	3.41	1.372	2505	7	04	06
	7	4	05	17.96	19	53	16.6	6.43	3.42	.366	9404	7	02	53
	8	4	08	01.21	20	01	29.0	6.46	3.44	.361	6088	7	01	39
	9	4	10	44.21	20	09	30.9	6.48	3.45	.356	2554	7	00	26
	10	4	13	26.94	20	17	22.3	6.51	3.46	.350	8794	6	59	12
	11	4	16	09.40	+20	25	03.1	6.54	3.48	1.345	4801	6	57	58
	12	4	18	51.56	20	32	33.5	6.56	3.49	.340	0573	6	56	43
	13	4	21	33.42	20	39	53.3	6.59	3.51	.334	6105	6	55	29
	14	4	24	14.96	20	47	02.7	6.62	3.52	.329	1394	6	54	14
	15	4	26	56.15	20	54	01.7	6.64	3.54	.323	6437	6	52	58
	16	4	29	36.99	+21	00	50.2	6.67	3.55	1.318	1232	6	51	43
	17	4	32	17.45	21	07	28.4	6.70	3.57	.312	5777	6	50	26
	18	4	34	57.51	21	13	56.2	6.73	3.58	.307	0075	6	49	10
	19	4	37	37.16	21	20	13.7	6.76	3.60	.301	4122	6	47	53
	20	4	40	16.37	21	26	20.9	6.79	3.61	.295	7919	6	46	35
	21	4	42	55.13	+21	32	17.9	6.82	3.63	1.290	1467	6	45	18
	22	4	45	33.41	21	38	04.7	6.85	3.64	.284	4768	6	43	59
	23	4	48	11.21	21	43	41.3	6.88	3.66	.278	7822	6	42	40
	24	4	50	48.50	21	49	07.9	6.91	3.68	.273	0633	6	41	21
	25	4	53	25.26	21	54	24.5	6.94	3.69	.267	3201	6	40	01
	26	4	56	01.48	+21	59	31.1	6.97	3.71	1.261	5530	6	38	41
	27	4	58	37.15	22	04	27.8	7.00	3.73	.255	7622	6	37	20
	28	5	01	12.24	22	09	14.7	7.04	3.74	.249	9479	6	35	58
	29	5	03	46.75	22	13	52.0	7.07	3.76	.244	1107	6	34	36
	30	5	06	20.65	22	18	19.6	7.10	3.78	.238	2503	6	33	13
	31	5	08	53.94	+22	22	37.8	7.14	3.80	1.232	3670	6	31	50

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	° ' "			"	"	AU		H	M	S
SEPT.	1	5	11	26.59	+22	26	46.5	7.17	3.82	1.226	4608	6	30	26
	2	5	13	58.60	22	30	46.0	7.21	3.83	.220	5319	6	29	01
	3	5	16	29.93	22	34	36.3	7.24	3.85	.214	5802	6	27	36
	4	5	19	00.59	22	38	17.6	7.28	3.87	.208	6052	6	26	10
	5	5	21	30.54	22	41	50.0	7.31	3.89	.202	6069	6	24	43
	6	5	23	59.78	+22	45	13.5	7.35	3.91	1.196	5849	6	23	16
	7	5	26	28.28	22	48	28.3	7.39	3.93	.190	5389	6	21	48
	8	5	28	56.03	22	51	34.5	7.42	3.95	.184	4689	6	20	19
	9	5	31	23.01	22	54	32.3	7.46	3.97	.178	3743	6	18	49
	10	5	33	49.18	22	57	21.8	7.50	3.99	.172	2553	6	17	19
	11	5	36	14.53	+23	00	03.2	7.54	4.01	1.166	1119	6	15	47
	12	5	38	39.02	23	02	36.6	7.58	4.03	.159	9439	6	14	15
	13	5	41	02.64	23	05	02.3	7.62	4.06	.153	7516	6	12	42
	14	5	43	25.36	23	07	20.2	7.66	4.08	.147	5352	6	11	08
	15	5	45	47.15	23	09	30.6	7.71	4.10	.141	2950	6	09	33
	16	5	48	07.98	+23	11	33.6	7.75	4.12	1.135	0314	6	07	57
	17	5	50	27.83	23	13	29.5	7.79	4.15	.128	7445	6	06	21
	18	5	52	46.67	23	15	18.4	7.83	4.17	.122	4350	6	04	43
	19	5	55	04.47	23	17	00.4	7.88	4.19	.116	1033	6	03	04
	20	5	57	21.20	23	18	35.8	7.92	4.22	.109	7503	6	01	24
	21	5	59	36.85	+23	20	04.7	7.97	4.24	1.103	3761	5	59	43
	22	6	01	51.37	23	21	27.3	8.02	4.27	.096	9819	5	58	01
	23	6	04	04.76	23	22	43.8	8.06	4.29	.090	5683	5	56	17
	24	6	06	16.98	23	23	54.4	8.11	4.32	.084	1360	5	54	33
	25	6	08	28.01	23	24	59.3	8.16	4.34	.077	6858	5	52	47
	26	6	10	37.83	+23	25	58.7	8.21	4.37	1.071	2186	5	51	00
	27	6	12	46.41	23	26	52.8	8.26	4.40	.064	7352	5	49	12
	28	6	14	53.73	23	27	41.9	8.31	4.42	.058	2361	5	47	23
	29	6	16	59.77	23	28	26.2	8.36	4.45	.051	7221	5	45	32
	30	6	19	04.50	23	29	05.9	8.41	4.48	.045	1935	5	43	40
OCT.	1	6	21	07.89	+23	29	41.3	8.47	4.51	1.038	6511	5	41	47
	2	6	23	09.93	23	30	12.5	8.52	4.53	.032	0952	5	39	52
	3	6	25	10.59	23	30	39.8	8.58	4.56	.025	5263	5	37	56
	4	6	27	09.83	23	31	03.4	8.63	4.59	.018	9446	5	35	58
	5	6	29	07.63	23	31	23.7	8.69	4.62	.012	3507	5	34	00
	6	6	31	03.97	+23	31	40.7	8.74	4.65	1.005	7450	5	31	59
	7	6	32	58.81	23	31	54.9	8.80	4.68	0.999	1279	5	29	57
	8	6	34	52.11	23	32	06.5	8.86	4.72	.992	4999	5	27	54
	9	6	36	43.85	23	32	15.6	8.92	4.75	.985	8619	5	25	49
	10	6	38	33.97	23	32	22.7	8.98	4.78	.979	2144	5	23	42
	11	6	40	22.45	+23	32	28.1	9.04	4.81	0.972	5586	5	21	34
	12	6	42	09.24	23	32	31.8	9.10	4.85	.965	8951	5	19	24
	13	6	43	54.30	23	32	34.3	9.17	4.88	.959	2251	5	17	12
	14	6	45	37.59	23	32	35.8	9.23	4.91	.952	5500	5	14	59
	15	6	47	19.07	23	32	36.6	9.30	4.95	.945	8707	5	12	44
	16	6	48	58.70	+23	32	37.1	9.36	4.98	0.939	1888	5	10	26
	17	6	50	36.43	23	32	37.4	9.43	5.02	.932	5052	5	08	07
	18	6	52	12.23	23	32	37.9	9.50	5.05	.925	8220	5	05	47
	19	6	53	46.04	23	32	38.7	9.57	5.09	.919	1405	5	03	24
	20	6	55	17.83	23	32	40.4	9.64	5.13	.912	4626	5	00	59
	21	6	56	47.56	+23	32	43.0	9.71	5.17	0.905	7900	4	58	32
	22	6	58	15.19	23	32	47.0	9.78	5.21	.899	1245	4	56	03
	23	6	59	40.67	23	32	52.5	9.85	5.24	.892	4681	4	53	31
	24	7	01	03.96	23	33	00.0	9.93	5.28	.885	8228	4	50	58
	25	7	02	25.03	23	33	09.7	10.00	5.32	.879	1905	4	48	22
	26	7	03	43.83	+23	33	21.8	10.08	5.36	0.872	5729	4	45	44
	27	7	05	00.33	23	33	36.8	10.16	5.40	.865	9720	4	43	04
	28	7	06	14.47	23	33	54.8	10.23	5.45	.859	3896	4	40	21
	29	7	07	26.23	23	34	16.2	10.31	5.49	.852	8274	4	37	37
	30	7	08	35.55	23	34	41.2	10.39	5.53	.846	2872	4	34	49
	31	7	09	42.40	+23	35	10.2	10.47	5.57	0.839	7706	4	31	59

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	O	'	"	"	"	AU		H	M	S
NOV.	1	7 10	46.73	+23 35	43.3		10.55	5.62	0.833	2797	4 29	07	
	2	7 11	48.49	23 36	21.0		10.64	5.66	.826	8159	4 26	12	
	3	7 12	47.64	23 37	03.5		10.72	5.70	.820	3812	4 23	15	
	4	7 13	44.12	23 37	51.1		10.80	5.75	.813	9778	4 20	14	
	5	7 14	37.87	23 38	44.0		10.89	5.79	.807	6078	4 17	11	
	6	7 15	28.85	+23 39	42.6		10.98	5.84	0.801	2730	4 14	06	
	7	7 16	16.99	23 40	47.1		11.06	5.89	.794	9764	4 10	57	
	8	7 17	02.23	23 41	57.8		11.15	5.93	.788	7200	4 07	46	
	9	7 17	44.52	23 43	14.9		11.24	5.98	.782	5067	4 04	32	
	10	7 18	23.80	23 44	38.7		11.33	6.03	.776	3392	4 01	14	
	11	7 19	00.01	+23 46	09.3		11.42	6.08	0.770	2205	3 57	54	
	12	7 19	33.08	23 47	47.1		11.51	6.12	.764	1535	3 54	30	
	13	7 20	02.97	23 49	32.1		11.60	6.17	.758	1415	3 51	04	
	14	7 20	29.61	23 51	24.6		11.69	6.22	.752	1878	3 47	34	
	15	7 20	52.95	23 53	24.7		11.78	6.27	.746	2960	3 44	00	
	16	7 21	12.93	+23 55	32.6		11.88	6.32	0.740	4693	3 40	24	
	17	7 21	29.51	23 57	48.3		11.97	6.37	.734	7117	3 36	44	
	18	7 21	42.63	24 00	11.9		12.06	6.42	.729	0272	3 33	01	
	19	7 21	52.25	24 02	43.6		12.16	6.47	.723	4197	3 29	14	
	20	7 21	58.33	24 05	23.3		12.25	6.52	.717	8931	3 25	23	
	21	7 22	00.83	+24 08	11.1		12.34	6.57	0.712	4517	3 21	29	
	22	7 21	59.72	24 11	06.9		12.44	6.62	.707	0991	3 17	32	
	23	7 21	54.97	24 14	10.8		12.53	6.67	.701	8399	3 13	31	
	24	7 21	46.55	24 17	22.6		12.62	6.72	.696	6775	3 09	26	
	25	7 21	34.45	24 20	42.2		12.72	6.77	.691	6162	3 05	18	
	26	7 21	18.63	+24 24	09.5		12.81	6.82	0.686	6600	3 01	05	
	27	7 20	59.10	24 27	44.4		12.90	6.86	.681	8121	2 56	50	
	28	7 20	35.83	24 31	26.6		12.99	6.91	.677	0769	2 52	30	
	29	7 20	08.83	24 35	15.9		13.08	6.96	.672	4580	2 48	07	
	30	7 19	38.08	24 39	12.0		13.17	7.01	.667	9596	2 43	40	
DEC.	1	7 19	03.58	+24 43	14.8		13.25	7.05	0.663	5854	2 39	09	
	2	7 18	25.35	24 47	23.8		13.34	7.10	.659	3395	2 34	35	
	3	7 17	43.38	24 51	38.7		13.42	7.14	.655	2262	2 29	57	
	4	7 16	57.69	24 55	59.1		13.50	7.19	.651	2496	2 25	15	
	5	7 16	08.31	25 00	24.6		13.58	7.23	.647	4138	2 20	30	
	6	7 15	15.25	+25 04	54.7		13.66	7.27	0.643	7233	2 15	41	
	7	7 14	18.56	25 09	28.9		13.74	7.31	.640	1825	2 10	48	
	8	7 13	18.28	25 14	06.6		13.81	7.35	.636	7955	2 05	52	
	9	7 12	14.47	25 18	47.3		13.88	7.39	.633	5668	2 00	53	
	10	7 11	07.19	25 23	30.3		13.95	7.42	.630	5010	1 55	50	
	11	7 09	56.52	+25 28	15.0		14.01	7.46	0.627	6023	1 50	43	
	12	7 08	42.54	25 33	00.6		14.07	7.49	.624	8753	1 45	34	
	13	7 07	25.35	25 37	46.6		14.13	7.52	.622	3240	1 40	21	
	14	7 06	05.07	25 42	32.1		14.18	7.55	.619	9532	1 35	05	
	15	7 04	41.81	25 47	16.4		14.24	7.58	.617	7664	1 29	46	
	16	7 03	15.72	+25 51	58.8		14.28	7.60	0.615	7683	1 24	24	
	17	7 01	46.93	25 56	38.5		14.32	7.62	.613	9625	1 19	00	
	18	7 00	15.63	26 01	14.7		14.36	7.64	.612	3531	1 13	33	
	19	6 58	41.97	26 05	46.8		14.39	7.66	.610	9433	1 08	04	
	20	6 57	06.14	26 10	14.0		14.42	7.68	.609	7362	1 02	33	
	21	6 55	28.34	+26 14	35.5		14.45	7.69	0.608	7345	0 57	00	
	22	6 53	48.77	26 18	50.7		14.47	7.70	.607	9410	0 51	25	
	23	6 52	07.63	26 22	58.9		14.48	7.71	.607	3575	0 45	49	
	24	6 50	25.16	26 26	59.5		14.49	7.71	.606	9857	0 40	11	
	25	6 48	41.55	26 30	52.1		14.49	7.71	.606	8272	0 34	32	
	26	6 46	57.03	+26 34	35.9		14.49	7.71	0.606	8831	0 28	52	
	27	6 45	11.83	26 38	10.7		14.48	7.71	.607	1541	0 23	12	
	28	6 43	26.17	26 41	35.9		14.47	7.70	.607	6411	0 17	31	
	29	6 41	40.26	26 44	51.2		14.46	7.69	.608	3446	0 11	50	
	30	6 39	54.34	26 47	56.3		14.43	7.68	.609	2647	0 06	09	
	31	6 38	08.61	+26 50	51.0		14.41	7.67	0.610	4015	0 00	28	

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DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	O	'	"			AU		H	M	S
JAN. 1	6	36	23.30	+26	53	35.0	14.38	7.65	0.611	7548	23	49	07
2	6	34	38.61	26	56	08.2	14.34	7.63	.613	3243	23	43	28
3	6	32	54.77	26	58	30.4	14.30	7.61	.615	1093	23	37	50
4	6	31	11.98	27	00	41.8	14.25	7.58	.617	1091	23	32	13
5	6	29	30.44	27	02	42.1	14.20	7.56	.619	3230	23	26	38
6	6	27	50.34	+27	04	31.5	14.14	7.53	0.621	7495	23	21	04
7	6	26	11.89	27	06	10.0	14.08	7.50	.624	3873	23	15	32
8	6	24	35.27	27	07	37.9	14.02	7.46	.627	2349	23	10	02
9	6	23	00.66	27	08	55.3	13.95	7.43	.630	2907	23	04	35
10	6	21	28.23	27	10	02.3	13.88	7.39	.633	5528	22	59	09
11	6	19	58.16	+27	10	59.4	13.80	7.35	0.637	0190	22	53	46
12	6	18	30.58	27	11	46.6	13.73	7.30	.640	6872	22	48	26
13	6	17	05.67	27	12	24.5	13.64	7.26	.644	5548	22	43	08
14	6	15	43.55	27	12	53.4	13.56	7.22	.648	6195	22	37	53
15	6	14	24.37	27	13	13.5	13.47	7.17	.652	8782	22	32	42
16	6	13	08.24	+27	13	25.5	13.38	7.12	0.657	3279	22	27	33
17	6	11	55.28	27	13	29.5	13.28	7.07	.661	9652	22	22	28
18	6	10	45.59	27	13	26.2	13.19	7.02	.666	7866	22	17	25
19	6	09	39.26	27	13	15.9	13.09	6.97	.671	7881	22	12	27
20	6	08	36.37	27	12	59.1	12.99	6.91	.676	9659	22	07	32
21	6	07	36.98	+27	12	36.2	12.89	6.86	0.682	3156	22	02	40
22	6	06	41.14	27	12	07.6	12.79	6.80	.687	8331	21	57	52
23	6	05	48.91	27	11	33.8	12.68	6.75	.693	5143	21	53	07
24	6	05	00.31	27	10	55.2	12.57	6.69	.699	3548	21	48	26
25	6	04	15.35	27	10	12.3	12.47	6.63	.705	3505	21	43	49
26	6	03	34.06	+27	09	25.3	12.36	6.58	0.711	4972	21	39	15
27	6	02	56.43	27	08	34.7	12.25	6.52	.717	7911	21	34	45
28	6	02	22.46	27	07	40.7	12.14	6.46	.724	2280	21	30	19
29	6	01	52.13	27	06	43.7	12.03	6.40	.730	8042	21	25	56
30	6	01	25.44	27	05	44.1	11.92	6.35	.737	5157	21	21	37
FEB. 31	6	01	02.36	+27	04	42.0	11.81	6.29	0.744	3588	21	17	21
1	6	00	42.85	27	03	37.6	11.70	6.23	.751	3299	21	13	09
2	6	00	26.90	27	02	31.3	11.60	6.17	.758	4254	21	09	00
3	6	00	14.48	27	01	23.2	11.49	6.11	.765	6418	21	04	55
4	6	00	05.53	27	00	13.4	11.38	6.05	.772	9756	21	00	53
5	6	00	00.04	+26	59	02.2	11.27	6.00	0.780	4237	20	56	55
6	5	59	57.95	26	57	49.6	11.16	5.94	.787	9825	20	53	00
7	5	59	59.23	26	56	35.8	11.05	5.88	.795	6491	20	49	08
8	6	00	03.83	26	55	20.9	10.95	5.83	.803	4202	20	45	20
9	6	00	11.71	26	54	05.0	10.84	5.77	.811	2928	20	41	34
10	6	00	22.83	+26	52	48.0	10.73	5.71	0.819	2638	20	37	52
11	6	00	37.15	26	51	30.2	10.63	5.66	.827	3301	20	34	13
12	6	00	54.62	26	50	11.6	10.53	5.60	.835	4886	20	30	37
13	6	01	15.18	26	48	52.1	10.42	5.55	.843	7361	20	27	04
14	6	01	38.79	26	47	31.9	10.32	5.49	.852	0696	20	23	35
15	6	02	05.41	+26	46	10.8	10.22	5.44	0.860	4856	20	20	08
16	6	02	34.98	26	44	49.0	10.12	5.39	.868	9808	20	16	44
17	6	03	07.44	26	43	26.3	10.02	5.33	.877	5521	20	13	22
18	6	03	42.75	26	42	02.8	9.92	5.28	.886	1959	20	10	04
19	6	04	20.84	26	40	38.3	9.83	5.23	.894	9093	20	06	48
20	6	05	01.67	+26	39	13.0	9.73	5.18	0.903	6888	20	03	35
21	6	05	45.16	26	37	46.6	9.64	5.13	.912	5316	20	00	25
22	6	06	31.25	26	36	19.2	9.54	5.08	.921	4347	19	57	17
23	6	07	19.89	26	34	50.6	9.45	5.03	.930	3956	19	54	11
24	6	08	11.02	26	33	20.8	9.36	4.98	.939	4114	19	51	08
25	6	09	04.56	+26	31	49.7	9.27	4.93	0.948	4797	19	48	08
26	6	10	00.47	26	30	17.1	9.18	4.89	.957	5983	19	45	09
27	6	10	58.67	26	28	43.1	9.10	4.84	.966	7647	19	42	13
28	6	11	59.13	26	27	07.3	9.01	4.80	.975	9769	19	39	19
MAR. 1	6	13	01.77	26	25	29.7	8.93	4.75	.985	2329	19	36	27
2	6	14	06.54	+26	23	50.3	8.84	4.71	0.994	5303	19	33	38

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
	H	M	S	O	'	"				
MAR.	3	6 15	13.39	+26 22	08.8		8.76	4.66	1.003 8677	19 30 50
	4	6 16	22.27	26 20	25.1		8.68	4.62	.013 2430	19 28 04
	5	6 17	33.13	26 18	39.0		8.60	4.58	.022 6545	19 25 20
	6	6 18	45.93	26 16	50.5		8.52	4.53	.032 1007	19 22 38
	7	6 20	00.60	26 14	59.4		8.44	4.49	.041 5799	19 19 58
	8	6 21	17.13	+26 13	05.6		8.37	4.45	1.051 0906	19 17 20
	9	6 22	35.45	26 11	09.0		8.29	4.41	.060 6310	19 14 43
	10	6 23	55.52	26 09	09.3		8.22	4.37	.070 1999	19 12 09
	11	6 25	17.32	26 07	06.5		8.14	4.33	.079 7955	19 09 35
	12	6 26	40.80	26 05	00.5		8.07	4.30	.089 4162	19 07 04
	13	6 28	05.92	+26 02	51.2		8.00	4.26	1.099 0604	19 04 34
	14	6 29	32.63	26 00	38.3		7.93	4.22	.108 7263	19 02 06
	15	6 31	00.92	25 58	21.8		7.86	4.18	.118 4121	18 59 39
	16	6 32	30.73	25 56	01.6		7.80	4.15	.128 1160	18 57 14
	17	6 34	02.04	25 53	37.5		7.73	4.11	.137 8360	18 54 50
	18	6 35	34.80	+25 51	09.4		7.66	4.08	1.147 5702	18 52 27
	19	6 37	08.98	25 48	37.1		7.60	4.04	.157 3166	18 50 06
	20	6 38	44.54	25 46	00.7		7.54	4.01	.167 0736	18 47 47
APR.	21	6 40	21.44	25 43	19.9		7.47	3.98	.176 8393	18 45 28
	22	6 41	59.65	25 40	34.7		7.41	3.94	.186 6123	18 43 11
	23	6 43	39.11	+25 37	44.9		7.35	3.91	1.196 3908	18 40 55
	24	6 45	19.80	25 34	50.5		7.29	3.88	.206 1737	18 38 40
	25	6 47	01.68	25 31	51.3		7.23	3.85	.215 9596	18 36 27
	26	6 48	44.71	25 28	47.3		7.17	3.82	.225 7472	18 34 14
	27	6 50	28.85	25 25	38.3		7.12	3.79	.235 5353	18 32 03
	28	6 52	14.07	+25 22	24.2		7.06	3.76	1.245 3227	18 29 53
	29	6 54	00.34	25 19	04.9		7.01	3.73	.255 1087	18 27 43
	30	6 55	47.62	25 15	40.3		6.95	3.70	.264 8921	18 25 35
	31	6 57	35.88	25 12	10.4		6.90	3.67	.274 6718	18 23 28
	1	6 59	25.10	25 08	34.9		6.85	3.64	.284 4472	18 21 21
	2	7 01	15.25	+25 04	53.9		6.79	3.62	1.294 2176	18 19 16
	3	7 03	06.29	25 01	07.2		6.74	3.59	.303 9821	18 17 11
	4	7 04	58.21	24 57	14.7		6.69	3.56	.313 7400	18 15 07
	5	7 06	50.98	24 53	16.4		6.64	3.54	.323 4907	18 13 04
	6	7 08	44.57	24 49	12.2		6.60	3.51	.333 2334	18 11 02
	7	7 10	38.98	+24 45	01.9		6.55	3.48	1.342 9675	18 09 01
	8	7 12	34.17	24 40	45.6		6.50	3.46	.352 6922	18 07 00
	9	7 14	30.12	24 36	23.2		6.45	3.44	.362 4066	18 05 00
	10	7 16	26.81	24 31	54.6		6.41	3.41	.372 1096	18 03 01
	11	7 18	24.22	24 27	19.7		6.36	3.39	.381 8004	18 01 03
	12	7 20	22.34	+24 22	38.4		6.32	3.36	1.391 4779	17 59 05
	13	7 22	21.14	24 17	50.8		6.28	3.34	.401 1409	17 57 08
	14	7 24	20.61	24 12	56.6		6.23	3.32	.410 7884	17 55 11
	15	7 26	20.73	24 07	56.0		6.19	3.29	.420 4189	17 53 16
	16	7 28	21.47	24 02	48.8		6.15	3.27	.430 0313	17 51 20
	17	7 30	22.83	+23 57	34.9		6.11	3.25	1.439 6246	17 49 26
	18	7 32	24.77	23 52	14.4		6.07	3.23	.449 1975	17 47 32
	19	7 34	27.27	23 46	47.3		6.03	3.21	.458 7489	17 45 38
	20	7 36	30.32	23 41	13.4		5.99	3.19	.468 2781	17 43 45
	21	7 38	33.89	23 35	32.8		5.95	3.17	.477 7841	17 41 53
	22	7 40	37.95	+23 29	45.4		5.91	3.15	1.487 2662	17 40 01
	23	7 42	42.50	23 23	51.3		5.88	3.13	.496 7236	17 38 09
	24	7 44	47.50	23 17	50.3		5.84	3.11	.506 1555	17 36 18
	25	7 46	52.94	23 11	42.4		5.80	3.09	.515 5616	17 34 27
	26	7 48	58.80	23 05	27.7		5.77	3.07	.524 9411	17 32 37
	27	7 51	05.06	+22 59	06.1		5.73	3.05	1.534 2935	17 30 47
	28	7 53	11.71	22 52	37.5		5.70	3.03	.543 6184	17 28 58
	29	7 55	18.73	22 46	02.0		5.66	3.01	.552 9154	17 27 09
	30	7 57	26.11	22 39	19.5		5.63	3.00	.562 1842	17 25 20
MAY	1	7 59	33.82	22 32	30.0		5.60	2.98	.571 4245	17 23 32
	2	8 01	41.87	+22 25	33.5		5.56	2.96	1.580 6359	17 21 43

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.		
	H	M	S	°	'	''	''	''	AU	H	M	S
MAY	3	8 03	50.24	+22 18	30.1		5.53	2.94	1.589 8184	17 19	56	
	4	8 05	58.91	22 11	19.6		5.50	2.93	.598 9717	17 18	08	
	5	8 08	07.88	22 04	02.1		5.47	2.91	.608 0954	17 16	21	
	6	8 10	17.13	21 56	37.6		5.44	2.89	.617 1891	17 14	34	
	7	8 12	26.66	21 49	06.0		5.41	2.88	.626 2525	17 12	47	
	8	8 14	36.45	+21 41	27.4		5.38	2.86	1.635 2848	17 11	01	
	9	8 16	46.50	21 33	41.8		5.35	2.85	.644 2855	17 09	14	
	10	8 18	56.80	21 25	49.2		5.32	2.83	.653 2540	17 07	28	
	11	8 21	07.34	21 17	49.5		5.29	2.82	.662 1894	17 05	43	
	12	8 23	18.11	21 09	42.7		5.26	2.80	.671 0910	17 03	57	
	13	8 25	29.11	+21 01	28.9		5.23	2.79	1.679 9579	17 02	12	
	14	8 27	40.32	20 53	08.1		5.21	2.77	.688 7894	17 00	27	
	15	8 29	51.74	20 44	40.3		5.18	2.76	.697 5843	16 58	42	
	16	8 32	03.36	20 36	05.5		5.15	2.74	.706 3422	16 56	57	
	17	8 34	15.17	20 27	23.8		5.13	2.73	.715 0622	16 55	13	
	18	8 36	27.14	+20 18	35.1		5.10	2.71	1.723 7436	16 53	29	
	19	8 38	39.28	20 09	39.6		5.08	2.70	.732 3860	16 51	44	
	20	8 40	51.57	20 00	37.2		5.05	2.69	.740 9887	16 50	00	
	21	8 43	04.00	19 51	28.0		5.03	2.67	.749 5513	16 48	16	
	22	8 45	16.56	19 42	11.9		5.00	2.66	.758 0733	16 46	33	
	23	8 47	29.23	+19 32	49.2		4.98	2.65	1.766 5544	16 44	49	
	24	8 49	42.03	19 23	19.6		4.95	2.64	.774 9943	16 43	05	
	25	8 51	54.92	19 13	43.4		4.93	2.62	.783 3926	16 41	22	
	26	8 54	07.91	19 04	00.4		4.91	2.61	.791 7492	16 39	39	
	27	8 56	20.99	18 54	10.8		4.89	2.60	.800 0637	16 37	55	
	28	8 58	34.16	+18 44	14.6		4.86	2.59	1.808 3364	16 36	12	
	29	9 00	47.40	18 34	11.8		4.84	2.58	.816 5668	16 34	29	
	30	9 03	00.72	18 24	02.5		4.82	2.56	.824 7554	16 32	46	
	31	9 05	14.10	18 13	46.7		4.80	2.55	.832 9020	16 31	03	
JUNE	1	9 07	27.55	18 03	24.4		4.78	2.54	.841 0065	16 29	20	
	2	9 09	41.06	+17 52	55.7		4.76	2.53	1.849 0690	16 27	37	
	3	9 11	54.63	17 42	20.6		4.74	2.52	.857 0894	16 25	54	
	4	9 14	08.25	17 31	39.2		4.72	2.51	.865 0674	16 24	11	
	5	9 16	21.92	17 20	51.4		4.70	2.50	.873 0027	16 22	29	
	6	9 18	35.64	17 09	57.4		4.68	2.49	.880 8949	16 20	46	
	7	9 20	49.42	+16 58	57.1		4.66	2.48	1.888 7436	16 19	03	
	8	9 23	03.25	16 47	50.6		4.64	2.47	.896 5484	16 17	21	
	9	9 25	17.13	16 36	37.9		4.62	2.46	.904 3084	16 15	38	
	10	9 27	31.05	16 25	19.0		4.60	2.45	.912 0231	16 13	56	
	11	9 29	45.03	16 13	54.1		4.58	2.44	.919 6921	16 12	13	
	12	9 31	59.05	+16 02	23.2		4.56	2.43	1.927 3145	16 10	31	
	13	9 34	13.12	15 50	46.2		4.54	2.42	.934 8899	16 08	49	
	14	9 36	27.22	15 39	03.4		4.53	2.41	.942 4176	16 07	06	
	15	9 38	41.35	15 27	14.7		4.51	2.40	.949 8974	16 05	24	
	16	9 40	55.52	15 15	20.2		4.49	2.39	.957 3285	16 03	42	
	17	9 43	09.70	+15 03	20.0		4.48	2.38	1.964 7106	16 02	00	
	18	9 45	23.92	14 51	14.2		4.46	2.37	.972 0437	16 00	17	
	19	9 47	38.14	14 39	02.7		4.44	2.36	.979 3271	15 58	35	
	20	9 49	52.39	14 26	45.7		4.43	2.36	.986 5609	15 56	53	
	21	9 52	06.65	14 14	23.1		4.41	2.35	1.993 7447	15 55	11	
	22	9 54	20.92	+14 01	55.2		4.40	2.34	2.000 8784	15 53	29	
	23	9 56	35.20	13 49	21.9		4.38	2.33	.007 9619	15 51	46	
	24	9 58	49.49	13 36	43.3		4.36	2.32	.014 9952	15 50	04	
	25	10 01	03.79	13 23	59.4		4.35	2.31	.021 9783	15 48	22	
	26	10 03	18.10	13 11	10.4		4.33	2.31	.028 9112	15 46	40	
	27	10 05	32.42	+12 58	16.2		4.32	2.30	2.035 7943	15 44	58	
	28	10 07	46.75	12 45	17.0		4.31	2.29	.042 6278	15 43	16	
	29	10 10	01.09	12 32	12.8		4.29	2.28	.049 4116	15 41	34	
	30	10 12	15.44	12 19	03.7		4.28	2.28	.056 1462	15 39	52	
JULY	1	10 14	29.80	12 05	49.7		4.26	2.27	.062 8314	15 38	10	
	2	10 16	44.17	+11 52	31.0		4.25	2.26	2.069 4674	15 36	28	

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"	"	"	AU		H	M	S
JULY	3	10	18	58.56	+11	39	07.5	4.24	2.25	2.076 0540		15	34	46
	4	10	21	12.98	11	25	39.2	4.22	2.25	.082 5909		15	33	04
	5	10	23	27.42	11	12	06.4	4.21	2.24	.089 0779		15	31	22
	6	10	25	41.90	10	58	28.9	4.20	2.23	.095 5148		15	29	40
	7	10	27	56.41	10	44	46.9	4.18	2.23	.101 9009		15	27	58
	8	10	30	10.96	+10	31	00.4	4.17	2.22	2.108 2357		15	26	16
	9	10	32	25.55	10	17	09.5	4.16	2.21	.114 5190		15	24	34
	10	10	34	40.19	10	03	14.2	4.15	2.21	.120 7502		15	22	52
	11	10	36	54.87	9	49	14.7	4.13	2.20	.126 9289		15	21	11
	12	10	39	09.60	9	35	11.0	4.12	2.19	.133 0546		15	19	29
	13	10	41	24.37	+ 9	21	03.1	4.11	2.19	2.139 1271		15	17	47
	14	10	43	39.20	9	06	51.3	4.10	2.18	.145 1459		15	16	06
	15	10	45	54.07	8	52	35.5	4.09	2.18	.151 1109		15	14	24
	16	10	48	08.99	8	38	15.8	4.08	2.17	.157 0217		15	12	43
	17	10	50	23.96	8	23	52.3	4.07	2.16	.162 8783		15	11	01
	18	10	52	38.98	+ 8	09	25.0	4.06	2.16	2.168 6803		15	09	20
	19	10	54	54.05	7	54	54.1	4.04	2.15	.174 4277		15	07	39
	20	10	57	09.19	7	40	19.7	4.03	2.15	.180 1205		15	05	57
	21	10	59	24.38	7	25	41.7	4.02	2.14	.185 7587		15	04	16
	22	11	01	39.64	7	11	00.3	4.01	2.14	.191 3422		15	02	35
	23	11	03	54.96	+ 6	56	15.6	4.00	2.13	2.196 8712		15	00	54
	24	11	06	10.35	6	41	27.6	3.99	2.13	.202 3461		14	59	13
	25	11	08	25.81	6	26	36.4	3.98	2.12	.207 7667		14	57	32
	26	11	10	41.34	6	11	42.2	3.97	2.11	.213 1337		14	55	51
	27	11	12	56.96	5	56	44.9	3.96	2.11	.218 4473		14	54	10
	28	11	15	12.65	+ 5	41	44.7	3.95	2.10	2.223 7079		14	52	30
	29	11	17	28.42	5	26	41.6	3.95	2.10	.228 9155		14	50	49
	30	11	19	44.29	5	11	35.8	3.94	2.09	.234 0705		14	49	08
	31	11	22	00.26	4	56	27.3	3.93	2.09	.239 1730		14	47	28
AUG.	1	11	24	16.33	4	41	16.1	3.92	2.09	.244 2228		14	45	48
	2	11	26	32.52	+ 4	26	02.3	3.91	2.08	2.249 2198		14	44	08
	3	11	28	48.83	4	10	45.9	3.90	2.08	.254 1638		14	42	28
	4	11	31	05.27	3	55	27.1	3.89	2.07	.259 0544		14	40	48
	5	11	33	21.85	3	40	05.9	3.88	2.07	.263 8915		14	39	08
	6	11	35	38.57	3	24	42.4	3.88	2.06	.268 6745		14	37	28
	7	11	37	55.43	+ 3	09	16.7	3.87	2.06	2.273 4031		14	35	49
	8	11	40	12.44	2	53	48.9	3.86	2.05	.278 0772		14	34	09
	9	11	42	29.60	2	38	19.0	3.85	2.05	.282 6963		14	32	30
	10	11	44	46.92	2	22	47.2	3.84	2.05	.287 2601		14	30	51
	11	11	47	04.40	2	07	13.5	3.84	2.04	.291 7686		14	29	12
	12	11	49	22.04	+ 1	51	38.0	3.83	2.04	2.296 2213		14	27	34
	13	11	51	39.86	1	36	00.9	3.82	2.03	.300 6181		14	25	55
	14	11	53	57.84	1	20	22.2	3.82	2.03	.304 9591		14	24	17
	15	11	56	16.00	1	04	42.0	3.81	2.03	.309 2440		14	22	39
	16	11	58	34.35	0	49	00.4	3.80	2.02	.313 4728		14	21	01
	17	12	00	52.88	+ 0	33	17.5	3.79	2.02	2.317 6456		14	19	23
	18	12	03	11.60	0	17	33.3	3.79	2.02	.321 7623		14	17	45
	19	12	05	30.53	+ 0	01	48.1	3.78	2.01	.325 8232		14	16	08
	20	12	07	49.65	- 0	13	58.2	3.77	2.01	.329 8282		14	14	31
	21	12	10	08.98	0	29	45.4	3.77	2.01	.333 7779		14	12	54
	22	12	12	28.51	- 0	45	33.4	3.76	2.00	2.337 6725		14	11	17
	23	12	14	48.27	1	01	22.1	3.76	2.00	.341 5124		14	09	40
	24	12	17	08.24	1	17	11.5	3.75	2.00	.345 2979		14	08	04
	25	12	19	28.44	1	33	01.3	3.74	1.99	.349 0295		14	06	28
	26	12	21	48.87	1	48	51.6	3.74	1.99	.352 7075		14	04	52
	27	12	24	09.54	- 2	04	42.2	3.73	1.99	2.356 3325		14	03	16
	28	12	26	30.46	2	20	33.0	3.73	1.98	.359 9045		14	01	41
	29	12	28	51.63	2	36	24.0	3.72	1.98	.363 4237		14	00	06
	30	12	31	13.08	2	52	15.0	3.72	1.98	.366 8902		13	58	31
	31	12	33	34.80	3	08	06.1	3.71	1.97	.370 3036		13	56	56
SEPT.	1	12	35	56.81	- 3	23	57.0	3.70	1.97	2.373 6641		13	55	22

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.			
		H	M	S	° ' "			"	"	AU	H	M	S	
SEPT.	2	12	38	19.12	-	3	39	47.8	3.70	1.97	2.376 9713	13	53	48
	3	12	40	41.72		3	55	38.3	3.69	1.97	.380 2250	13	52	14
	4	12	43	04.63		4	11	28.4	3.69	1.96	.383 4250	13	50	41
	5	12	45	27.85		4	27	18.0	3.68	1.96	.386 5711	13	49	08
	6	12	47	51.39		4	43	06.9	3.68	1.96	.389 6631	13	47	35
	7	12	50	15.25	-	4	58	55.2	3.68	1.96	2.392 7009	13	46	03
	8	12	52	39.44		5	14	42.6	3.67	1.95	.395 6842	13	44	31
	9	12	55	03.96		5	30	29.1	3.67	1.95	.398 6129	13	42	59
	10	12	57	28.82		5	46	14.4	3.66	1.95	.401 4869	13	41	28
	11	12	59	54.03		6	01	58.7	3.66	1.95	.404 3063	13	39	57
	12	13	02	19.60	-	6	17	41.6	3.65	1.94	2.407 0709	13	38	26
	13	13	04	45.51		6	33	23.1	3.65	1.94	.409 7807	13	36	56
	14	13	07	11.80		6	49	03.1	3.65	1.94	.412 4357	13	35	26
	15	13	09	38.45		7	04	41.4	3.64	1.94	.415 0363	13	33	56
	16	13	12	05.48		7	20	18.0	3.64	1.94	.417 5825	13	32	27
	17	13	14	32.89	-	7	35	52.7	3.63	1.93	2.420 0746	13	30	58
18	13	17	00.68		7	51	25.4	3.63	1.93	.422 5129	13	29	30	
19	13	19	28.86		8	06	55.9	3.63	1.93	.424 8978	13	28	02	
20	13	21	57.44		8	22	24.2	3.62	1.93	.427 2297	13	26	34	
21	13	24	26.41		8	37	50.0	3.62	1.93	.429 5092	13	25	07	
22	13	26	55.79	-	8	53	13.3	3.62	1.92	2.431 7369	13	23	40	
23	13	29	25.58		9	08	33.9	3.61	1.92	.433 9130	13	22	13	
24	13	31	55.79		9	23	51.8	3.61	1.92	.436 0382	13	20	47	
25	13	34	26.44		9	39	06.7	3.61	1.92	.438 1128	13	19	22	
26	13	36	57.52		9	54	18.6	3.60	1.92	.440 1371	13	17	57	
27	13	39	29.05	-10	09	27.4	3.60	1.92	2.442 1114	13	16	32		
28	13	42	01.04		10	24	32.9	3.60	1.91	.444 0357	13	15	08	
29	13	44	33.50		10	39	35.1	3.60	1.91	.445 9100	13	13	44	
30	13	47	06.43		10	54	33.8	3.59	1.91	.447 7343	13	12	21	
OCT.	1	13	49	39.84		11	09	28.9	3.59	1.91	.449 5084	13	10	58
2	13	52	13.74	-11	24	20.3	3.59	1.91	2.451 2324	13	09	36		
3	13	54	48.13		11	39	07.7	3.59	1.91	.452 9060	13	08	14	
4	13	57	23.02		11	53	51.2	3.58	1.91	.454 5292	13	06	52	
5	13	59	58.41		12	08	30.4	3.58	1.91	.456 1017	13	05	32	
6	14	02	34.30		12	23	05.4	3.58	1.90	.457 6237	13	04	11	
7	14	05	10.72	-12	37	35.9	3.58	1.90	2.459 0951	13	02	51		
8	14	07	47.65		12	52	01.8	3.57	1.90	.460 5159	13	01	32	
9	14	10	25.10		13	06	23.0	3.57	1.90	.461 8861	13	00	14	
10	14	13	03.09		13	20	39.3	3.57	1.90	.463 2056	12	58	55	
11	14	15	41.61		13	34	50.5	3.57	1.90	.464 4745	12	57	38	
12	14	18	20.67	-13	48	56.6	3.57	1.90	2.465 6930	12	56	21		
13	14	21	00.27		14	02	57.4	3.56	1.90	.466 8612	12	55	04	
14	14	23	40.42		14	16	52.6	3.56	1.90	.467 9795	12	53	48	
15	14	26	21.12		14	30	42.2	3.56	1.90	.469 0480	12	52	32	
16	14	29	02.37		14	44	26.1	3.56	1.89	.470 0673	12	51	17	
17	14	31	44.17	-14	58	03.9	3.56	1.89	2.471 0378	12	50	03		
18	14	34	26.53		15	11	35.7	3.56	1.89	.471 9600	12	48	49	
19	14	37	09.45		15	25	01.1	3.56	1.89	.472 8344	12	47	36	
20	14	39	52.92		15	38	20.1	3.56	1.89	.473 6618	12	46	23	
21	14	42	36.97		15	51	32.5	3.55	1.89	.474 4428	12	45	11	
22	14	45	21.59	-16	04	38.1	3.55	1.89	2.475 1779	12	44	00		
23	14	48	06.79		16	17	36.8	3.55	1.89	.475 8675	12	42	49	
24	14	50	52.58		16	30	28.4	3.55	1.89	.476 5122	12	41	38	
25	14	53	38.96		16	43	12.8	3.55	1.89	.477 1123	12	40	28	
26	14	56	25.94		16	55	49.8	3.55	1.89	.477 6682	12	39	19	
27	14	59	13.52	-17	08	19.4	3.55	1.89	2.478 1801	12	38	11		
28	15	02	01.71		17	20	41.3	3.55	1.89	.478 6478	12	37	03	
29	15	04	50.51		17	32	55.4	3.55	1.89	.479 0719	12	35	55	
30	15	07	39.91		17	45	01.5	3.55	1.89	.479 4519	12	34	48	
31	15	10	29.93		17	56	59.5	3.55	1.89	.479 7879	12	33	42	
NOV.	1	15	13	20.57	-18	08	49.2	3.55	1.89	2.480 0802	12	32	37	

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.		
	H	M	S	°	'	"	"	"	AU	H	M	S
NOV. 2	15	16	11.62	-18	20	30.4	3.55	1.89	2.480 3287	12	31	32
3	15	19	03.70	18	32	02.9	3.55	1.89	.480 5332	12	30	27
4	15	21	56.19	18	43	26.7	3.54	1.89	.480 6942	12	29	24
5	15	24	49.30	18	54	41.5	3.54	1.89	.480 8114	12	28	21
6	15	27	43.03	19	05	47.2	3.54	1.89	.480 8849	12	27	18
7	15	30	37.38	-19	16	43.6	3.54	1.89	2.480 9149	12	26	16
8	15	33	32.36	19	27	30.5	3.54	1.89	.480 9014	12	25	15
9	15	36	27.95	19	38	07.7	3.54	1.89	.480 8448	12	24	15
10	15	39	24.16	19	48	35.2	3.54	1.89	.480 7450	12	23	15
11	15	42	20.98	19	58	52.7	3.55	1.89	.480 6025	12	22	15
12	15	45	18.41	-20	09	00.1	3.55	1.89	2.480 4176	12	21	16
13	15	48	16.45	20	18	57.2	3.55	1.89	.480 1907	12	20	18
14	15	51	15.09	20	28	43.9	3.55	1.89	.479 9224	12	19	21
15	15	54	14.32	20	38	19.8	3.55	1.89	.479 6136	12	18	24
16	15	57	14.15	20	47	44.9	3.55	1.89	.479 2645	12	17	27
17	16	00	14.56	-20	56	59.1	3.55	1.89	2.478 8760	12	16	32
18	16	03	15.56	21	06	02.0	3.55	1.89	.478 4488	12	15	36
19	16	06	17.14	21	14	53.6	3.55	1.89	.477 9836	12	14	42
20	16	09	19.31	21	23	33.8	3.55	1.89	.477 4809	12	13	48
21	16	12	22.06	21	32	02.3	3.55	1.89	.476 9413	12	12	54
22	16	15	25.39	-21	40	19.0	3.55	1.89	2.476 3655	12	12	01
23	16	18	29.29	21	48	23.8	3.55	1.89	.475 7538	12	11	09
24	16	21	33.77	21	56	16.6	3.55	1.89	.475 1066	12	10	17
25	16	24	38.81	22	03	57.1	3.55	1.89	.474 4240	12	09	26
26	16	27	44.42	22	11	25.3	3.55	1.89	.473 7066	12	08	35
27	16	30	50.58	-22	18	41.0	3.56	1.89	2.472 9541	12	07	45
28	16	33	57.29	22	25	44.0	3.56	1.89	.472 1670	12	06	56
29	16	37	04.54	22	32	34.1	3.56	1.89	.471 3452	12	06	07
30	16	40	12.33	22	39	11.4	3.56	1.89	.470 4890	12	05	18
DEC. 1	16	43	20.65	22	45	35.5	3.56	1.90	.469 5985	12	04	30
2	16	46	29.48	-22	51	46.4	3.56	1.90	2.468 6737	12	03	43
3	16	49	38.84	22	57	43.9	3.56	1.90	.467 7149	12	02	56
4	16	52	48.69	23	03	27.9	3.57	1.90	.466 7219	12	02	09
5	16	55	59.04	23	08	58.2	3.57	1.90	.465 6952	12	01	24
6	16	59	09.88	23	14	14.8	3.57	1.90	.464 6347	12	00	38
7	17	02	21.19	-23	19	17.4	3.57	1.90	2.463 5408	11	59	53
8	17	05	32.96	23	24	06.1	3.57	1.90	.462 4135	11	59	09
9	17	08	45.18	23	28	40.6	3.57	1.90	.461 2531	11	58	24
10	17	11	57.84	23	33	00.8	3.57	1.90	.460 0601	11	57	41
11	17	15	10.92	23	37	06.7	3.58	1.90	.458 8350	11	56	57
12	17	18	24.40	-23	40	58.0	3.58	1.90	2.457 5782	11	56	15
13	17	21	38.27	23	44	34.8	3.58	1.91	.456 2905	11	55	32
14	17	24	52.51	23	47	56.8	3.58	1.91	.454 9725	11	54	50
15	17	28	07.13	23	51	03.9	3.58	1.91	.453 6251	11	54	08
16	17	31	22.09	23	53	56.1	3.59	1.91	.452 2490	11	53	27
17	17	34	37.39	-23	56	33.3	3.59	1.91	2.450 8447	11	52	46
18	17	37	53.03	23	58	55.3	3.59	1.91	.449 4132	11	52	05
19	17	41	08.98	24	01	02.1	3.59	1.91	.447 9550	11	51	25
20	17	44	25.25	24	02	53.7	3.59	1.91	.446 4708	11	50	45
21	17	47	41.80	24	04	29.9	3.60	1.91	.444 9611	11	50	05
22	17	50	58.64	-24	05	50.7	3.60	1.92	2.443 4264	11	49	25
23	17	54	15.74	24	06	56.0	3.60	1.92	.441 8670	11	48	46
24	17	57	33.10	24	07	45.8	3.60	1.92	.440 2832	11	48	07
25	18	00	50.70	24	08	19.9	3.61	1.92	.438 6754	11	47	28
26	18	04	08.52	24	08	38.5	3.61	1.92	.437 0438	11	46	49
27	18	07	26.55	-24	08	41.3	3.61	1.92	2.435 3886	11	46	11
28	18	10	44.79	24	08	28.3	3.61	1.92	.433 7100	11	45	33
29	18	14	03.20	24	07	59.6	3.62	1.92	.432 0082	11	44	55
30	18	17	21.79	24	07	15.0	3.62	1.93	.430 2833	11	44	17
31	18	20	40.53	24	06	14.5	3.62	1.93	.428 5354	11	43	39

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.		
		H	M	S	° ' "			"	"	AU	H	M	S
JAN.	1	18	23	59.41	-24	04	58.2	3.62	1.93	2.426 7647	11	43	01
	2	18	27	18.42	24	03	25.9	3.63	1.93	.424 9715	11	42	24
	3	18	30	37.54	24	01	37.7	3.63	1.93	.423 1556	11	41	47
	4	18	33	56.76	23	59	33.5	3.63	1.93	.421 3174	11	41	09
	5	18	37	16.05	23	57	13.5	3.63	1.93	.419 4569	11	40	32
	6	18	40	35.40	-23	54	37.5	3.64	1.94	2.417 5744	11	39	55
	7	18	43	54.79	23	51	45.6	3.64	1.94	.415 6702	11	39	18
	8	18	47	14.20	23	48	37.7	3.64	1.94	.413 7447	11	38	41
	9	18	50	33.61	23	45	14.0	3.65	1.94	.411 7983	11	38	04
	10	18	53	53.00	23	41	34.4	3.65	1.94	.409 8318	11	37	26
	11	18	57	12.37	-23	37	38.9	3.65	1.94	2.407 8458	11	36	49
	12	19	00	31.68	23	33	27.6	3.66	1.95	.405 8410	11	36	12
	13	19	03	50.94	23	29	00.4	3.66	1.95	.403 8183	11	35	35
	14	19	07	10.12	23	24	17.5	3.66	1.95	.401 7781	11	34	57
	15	19	10	29.21	23	19	18.8	3.66	1.95	.399 7215	11	34	20
	16	19	13	48.20	-23	14	04.5	3.67	1.95	2.397 6488	11	33	42
	17	19	17	07.08	23	08	34.6	3.67	1.95	.395 5608	11	33	04
	18	19	20	25.84	23	02	49.1	3.67	1.96	.393 4580	11	32	27
	19	19	23	44.46	22	56	48.1	3.68	1.96	.391 3410	11	31	49
	20	19	27	02.92	22	50	31.7	3.68	1.96	.389 2102	11	31	10
	21	19	30	21.22	-22	44	00.0	3.68	1.96	2.387 0658	11	30	32
	22	19	33	39.35	22	37	13.0	3.69	1.96	.384 9082	11	29	54
	23	19	36	57.29	22	30	10.8	3.69	1.96	.382 7377	11	29	15
	24	19	40	15.03	22	22	53.5	3.69	1.97	.380 5546	11	28	36
	25	19	43	32.57	22	15	21.2	3.70	1.97	.378 3588	11	27	57
	26	19	46	49.88	-22	07	34.0	3.70	1.97	2.376 1507	11	27	18
	27	19	50	06.97	21	59	31.9	3.70	1.97	.373 9303	11	26	38
	28	19	53	23.83	21	51	15.1	3.71	1.97	.371 6979	11	25	58
	29	19	56	40.43	21	42	43.7	3.71	1.98	.369 4534	11	25	18
	30	19	59	56.79	21	33	57.8	3.71	1.98	.367 1970	11	24	38
FEB.	31	20	03	12.87	-21	24	57.5	3.72	1.98	2.364 9286	11	23	57
	1	20	06	28.68	21	15	43.0	3.72	1.98	.362 6484	11	23	16
	2	20	09	44.20	21	06	14.3	3.73	1.98	.360 3563	11	22	35
	3	20	12	59.42	20	56	31.6	3.73	1.98	.358 0525	11	21	54
	4	20	16	14.33	20	46	35.1	3.73	1.99	.355 7370	11	21	12
	5	20	19	28.92	-20	36	24.9	3.74	1.99	2.353 4101	11	20	30
	6	20	22	43.18	20	26	01.1	3.74	1.99	.351 0721	11	19	47
	7	20	25	57.08	20	15	23.9	3.74	1.99	.348 7234	11	19	05
	8	20	29	10.64	20	04	33.4	3.75	1.99	.346 3648	11	18	21
	9	20	32	23.83	19	53	29.7	3.75	2.00	.343 9967	11	17	38
	10	20	35	36.66	-19	42	13.1	3.76	2.00	2.341 6197	11	16	54
	11	20	38	49.12	19	30	43.6	3.76	2.00	.339 2347	11	16	10
	12	20	42	01.21	19	19	01.5	3.76	2.00	.336 8419	11	15	25
	13	20	45	12.91	19	07	06.8	3.77	2.00	.334 4423	11	14	40
	14	20	48	24.23	18	54	59.8	3.77	2.01	.332 0362	11	13	55
	15	20	51	35.17	-18	42	40.6	3.77	2.01	2.329 6242	11	13	09
	16	20	54	45.71	18	30	09.4	3.78	2.01	.327 2066	11	12	23
	17	20	57	55.85	18	17	26.4	3.78	2.01	.324 7838	11	11	36
	18	21	01	05.60	18	04	31.8	3.79	2.02	.322 3561	11	10	49
	19	21	04	14.95	17	51	25.6	3.79	2.02	.319 9238	11	10	02
	20	21	07	23.90	-17	38	08.1	3.79	2.02	2.317 4870	11	09	14
	21	21	10	32.45	17	24	39.4	3.80	2.02	.315 0459	11	08	26
	22	21	13	40.60	17	10	59.8	3.80	2.02	.312 6007	11	07	38
	23	21	16	48.35	16	57	09.3	3.81	2.03	.310 1514	11	06	49
	24	21	19	55.70	16	43	08.3	3.81	2.03	.307 6980	11	05	59
	25	21	23	02.66	-16	28	56.7	3.81	2.03	2.305 2407	11	05	09
	26	21	26	09.21	16	14	34.9	3.82	2.03	.302 7791	11	04	19
	27	21	29	15.37	16	00	03.0	3.82	2.03	.300 3134	11	03	29
	28	21	32	21.13	15	45	21.2	3.83	2.04	.297 8433	11	02	38
MAR.	1	21	35	26.50	15	30	29.8	3.83	2.04	.295 3690	11	01	46
	2	21	38	31.47	-15	15	28.8	3.84	2.04	2.292 8900	11	00	55

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"			AU		H	M	S
MAR.	3	21	41	36.04	-15	00	18.5	3.84	2.04	2.290	4064	11	00	03
	4	21	44	40.21	14	44	59.2	3.84	2.05	.287	9181	10	59	10
	5	21	47	43.97	14	29	30.9	3.85	2.05	.285	4250	10	58	17
	6	21	50	47.34	14	13	54.0	3.85	2.05	.282	9272	10	57	24
	7	21	53	50.30	13	58	08.6	3.86	2.05	.280	4249	10	56	30
	8	21	56	52.86	-13	42	14.9	3.86	2.05	2.277	9183	10	55	36
	9	21	59	55.02	13	26	13.2	3.86	2.06	.275	4079	10	54	41
	10	22	02	56.79	13	10	03.5	3.87	2.06	.272	8941	10	53	46
	11	22	05	58.16	12	53	46.1	3.87	2.06	.270	3773	10	52	51
	12	22	08	59.14	12	37	21.3	3.88	2.06	.267	8582	10	51	55
	13	22	11	59.74	-12	20	49.3	3.88	2.07	2.265	3371	10	50	59
	14	22	14	59.95	12	04	10.1	3.89	2.07	.262	8142	10	50	03
	15	22	17	59.79	11	47	24.1	3.89	2.07	.260	2902	10	49	06
	16	22	20	59.25	11	30	31.5	3.90	2.07	.257	7651	10	48	09
	17	22	23	58.34	11	13	32.3	3.90	2.08	.255	2392	10	47	11
	18	22	26	57.07	-10	56	27.0	3.90	2.08	2.252	7128	10	46	13
	19	22	29	55.45	10	39	15.5	3.91	2.08	.250	1858	10	45	15
	20	22	32	53.48	10	21	58.2	3.91	2.08	.247	6584	10	44	16
	21	22	35	51.16	10	04	35.2	3.92	2.08	.245	1307	10	43	17
	22	22	38	48.51	9	47	06.7	3.92	2.09	.242	6025	10	42	18
	23	22	41	45.53	-9	29	32.9	3.93	2.09	2.240	0740	10	41	18
	24	22	44	42.24	9	11	54.0	3.93	2.09	.237	5449	10	40	18
	25	22	47	38.63	8	54	10.2	3.93	2.09	.235	0150	10	39	18
	26	22	50	34.72	8	36	21.7	3.94	2.10	.232	4842	10	38	18
	27	22	53	30.52	8	18	28.7	3.94	2.10	.229	9522	10	37	17
	28	22	56	26.02	-8	00	31.3	3.95	2.10	2.227	4188	10	36	16
	29	22	59	21.24	7	42	29.8	3.95	2.10	.224	8837	10	35	14
	30	23	02	16.19	7	24	24.4	3.96	2.11	.222	3463	10	34	13
	31	23	05	10.85	7	06	15.3	3.96	2.11	.219	8066	10	33	11
APR.	1	23	08	05.25	6	48	02.7	3.97	2.11	.217	2641	10	32	08
	2	23	10	59.39	-6	29	46.9	3.97	2.11	2.214	7185	10	31	06
	3	23	13	53.26	6	11	27.9	3.98	2.12	.212	1697	10	30	03
	4	23	16	46.88	5	53	06.1	3.98	2.12	.209	6176	10	29	00
	5	23	19	40.25	5	34	41.6	3.98	2.12	.207	0620	10	27	57
	6	23	22	33.38	5	16	14.6	3.99	2.12	.204	5032	10	26	53
	7	23	25	26.27	-4	57	45.4	3.99	2.13	2.201	9413	10	25	50
	8	23	28	18.93	4	39	14.1	4.00	2.13	.199	3765	10	24	46
	9	23	31	11.37	4	20	40.9	4.00	2.13	.196	8091	10	23	42
	10	23	34	03.59	4	02	06.1	4.01	2.13	.194	2393	10	22	37
	11	23	36	55.60	3	43	29.8	4.01	2.14	.191	6676	10	21	33
	12	23	39	47.41	-3	24	52.3	4.02	2.14	2.189	0939	10	20	28
	13	23	42	39.02	3	06	13.6	4.02	2.14	.186	5183	10	19	23
	14	23	45	30.45	2	47	34.2	4.03	2.14	.183	9411	10	18	18
	15	23	48	21.69	2	28	54.0	4.03	2.15	.181	3622	10	17	12
	16	23	51	12.77	2	10	13.3	4.04	2.15	.178	7815	10	16	07
	17	23	54	03.68	-1	51	32.3	4.04	2.15	2.176	1991	10	15	01
	18	23	56	54.45	1	32	51.2	4.05	2.15	.173	6148	10	13	55
	19	23	59	45.07	1	14	10.1	4.05	2.16	.171	0286	10	12	50
	20	0	02	35.56	0	55	29.2	4.06	2.16	.168	4401	10	11	43
	21	0	05	25.94	0	36	48.6	4.06	2.16	.165	8493	10	10	37
	22	0	08	16.20	-0	18	08.7	4.07	2.16	2.163	2557	10	09	31
	23	0	11	06.35	+0	00	30.6	4.07	2.17	.160	6591	10	08	25
	24	0	13	56.41	0	19	08.9	4.07	2.17	.158	0589	10	07	18
	25	0	16	46.39	0	37	46.1	4.08	2.17	.155	4548	10	06	12
	26	0	19	36.28	0	56	22.1	4.08	2.17	.152	8462	10	05	05
	27	0	22	26.10	+1	14	56.5	4.09	2.18	2.150	2327	10	03	58
	28	0	25	15.85	1	33	29.3	4.09	2.18	.147	6136	10	02	51
	29	0	28	05.54	1	52	00.3	4.10	2.18	.144	9884	10	01	45
	30	0	30	55.17	2	10	29.3	4.10	2.18	.142	3568	10	00	38
MAY	1	0	33	44.75	2	28	56.0	4.11	2.19	.139	7181	9	59	31
	2	0	36	34.28	+2	47	20.3	4.11	2.19	2.137	0723	9	58	24

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		H	M	S	O	°	'			'	'	AU	H	M	S
MAY	3	0	39	23.78	+	3	05	42.1	4.12	2.19	2.134	4188	9	57	17
	4	0	42	13.24		3	24	01.0	4.13	2.20	.131	7575	9	56	10
	5	0	45	02.67		3	42	17.1	4.13	2.20	.129	0884	9	55	03
	6	0	47	52.08		4	00	30.0	4.14	2.20	.126	4116	9	53	56
	7	0	50	41.48		4	18	39.5	4.14	2.20	.123	7269	9	52	48
	8	0	53	30.85	+	4	36	45.6	4.15	2.21	2.121	0345	9	51	41
	9	0	56	20.22		4	54	48.0	4.15	2.21	.118	3345	9	50	34
	10	0	59	09.59		5	12	46.5	4.16	2.21	.115	6270	9	49	27
	11	1	01	58.96		5	30	41.0	4.16	2.21	.112	9119	9	48	20
	12	1	04	48.34		5	48	31.3	4.17	2.22	.110	1892	9	47	13
	13	1	07	37.73	+	6	06	17.3	4.17	2.22	2.107	4588	9	46	06
	14	1	10	27.16		6	23	58.7	4.18	2.22	.104	7207	9	44	59
	15	1	13	16.61		6	41	35.4	4.18	2.23	.101	9744	9	43	52
	16	1	16	06.10		6	59	07.3	4.19	2.23	.099	2203	9	42	45
	17	1	18	55.64		7	16	34.2	4.19	2.23	.096	4576	9	41	38
	18	1	21	45.24	+	7	33	56.0	4.20	2.24	2.093	6865	9	40	31
	19	1	24	34.90		7	51	12.4	4.21	2.24	.090	9063	9	39	24
	20	1	27	24.63		8	08	23.5	4.21	2.24	.088	1169	9	38	17
	21	1	30	14.44		8	25	29.0	4.22	2.24	.085	3177	9	37	11
	22	1	33	04.33		8	42	28.7	4.22	2.25	.082	5083	9	36	04
	23	1	35	54.30	+	8	59	22.6	4.23	2.25	2.079	6881	9	34	57
	24	1	38	44.37		9	16	10.4	4.23	2.25	.076	8563	9	33	51
	25	1	41	34.54		9	32	52.0	4.24	2.26	.074	0125	9	32	45
	26	1	44	24.80		9	49	27.3	4.25	2.26	.071	1559	9	31	39
27	1	47	15.16		10	05	56.1	4.25	2.26	.068	2858	9	30	32	
	28	1	50	05.63	+	10	22	18.2	4.26	2.27	2.065	4017	9	29	26
	29	1	52	56.21		10	38	33.5	4.26	2.27	.062	5029	9	28	21
	30	1	55	46.90		10	54	41.8	4.27	2.27	.059	5889	9	27	15
	31	1	58	37.70		11	10	43.0	4.28	2.28	.056	6593	9	26	09
	JUNE 1	2	01	28.62		11	26	37.0	4.28	2.28	.053	7137	9	25	04
	2	2	04	19.65	+	11	42	23.5	4.29	2.28	2.050	7519	9	23	58
	3	2	07	10.79		11	58	02.5	4.29	2.29	.047	7736	9	22	53
	4	2	10	02.06		12	13	33.7	4.30	2.29	.044	7788	9	21	48
	5	2	12	53.44		12	28	57.1	4.31	2.29	.041	7676	9	20	43
	6	2	15	44.93		12	44	12.5	4.31	2.30	.038	7397	9	19	38
	7	2	18	36.54	+	12	59	19.6	4.32	2.30	2.035	6951	9	18	33
	8	2	21	28.26		13	14	18.5	4.33	2.30	.032	6338	9	17	28
9	2	24	20.11		13	29	09.0	4.33	2.31	.029	5557	9	16	23	
10	2	27	12.08		13	43	50.8	4.34	2.31	.026	4608	9	15	19	
11	2	30	04.17		13	58	24.0	4.35	2.31	.023	3488	9	14	15	
	12	2	32	56.39	+	14	12	48.3	4.35	2.32	2.020	2194	9	13	10
	13	2	35	48.74		14	27	03.8	4.36	2.32	.017	0727	9	12	06
	14	2	38	41.22		14	41	10.2	4.37	2.32	.013	9082	9	11	02
	15	2	41	33.83		14	55	07.4	4.37	2.33	.010	7259	9	09	58
	16	2	44	26.58		15	08	55.3	4.38	2.33	.007	5252	9	08	55
	17	2	47	19.47	+	15	22	33.9	4.39	2.33	2.004	3058	9	07	51
	18	2	50	12.50		15	36	03.1	4.39	2.34	2.001	0676	9	06	48
	19	2	53	05.67		15	49	22.6	4.40	2.34	1.997	8096	9	05	44
	20	2	55	58.98		16	02	32.5	4.41	2.35	.994	5315	9	04	41
	21	2	58	52.42		16	15	32.6	4.42	2.35	.991	2325	9	03	38
	22	3	01	46.00	+	16	28	22.8	4.42	2.35	1.987	9119	9	02	35
	23	3	04	39.71		16	41	02.9	4.43	2.36	.984	5691	9	01	33
24	3	07	33.56		16	53	33.0	4.44	2.36	.981	2032	9	00	30	
25	3	10	27.53		17	05	52.8	4.45	2.37	.977	8137	8	59	27	
26	3	13	21.63		17	18	02.3	4.45	2.37	.974	3999	8	58	25	
	27	3	16	15.86	+	17	30	01.4	4.46	2.37	1.970	9610	8	57	23
	28	3	19	10.20		17	41	50.0	4.47	2.38	.967	4968	8	56	21
	29	3	22	04.66		17	53	28.0	4.48	2.38	.964	0067	8	55	19
	30	3	24	59.22		18	04	55.2	4.49	2.39	.960	4903	8	54	17
	JULY 1	3	27	53.89		18	16	11.7	4.49	2.39	.956	9474	8	53	15
	2	3	30	48.64	+	18	27	17.2	4.50	2.40	1.953	3780	8	52	13

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		H	M	S	°	'	"	"	"	AU		H	M	S
JULY	3	3	33	43.49	+18	38	11.8	4.51	2.40	1.949	7816	8	51	12
	4	3	36	38.40	18	48	55.3	4.52	2.40	.946	1584	8	50	10
	5	3	39	33.39	18	59	27.6	4.53	2.41	.942	5083	8	49	09
	6	3	42	28.45	19	09	48.7	4.54	2.41	.938	8311	8	48	07
	7	3	45	23.57	19	19	58.4	4.54	2.42	.935	1269	8	47	06
	8	3	48	18.74	+19	29	56.8	4.55	2.42	1.931	3953	8	46	04
	9	3	51	13.97	19	39	43.7	4.56	2.43	.927	6366	8	45	03
	10	3	54	09.24	19	49	19.1	4.57	2.43	.923	8503	8	44	02
	11	3	57	04.55	19	58	42.9	4.58	2.44	.920	0364	8	43	01
	12	3	59	59.90	20	07	55.1	4.59	2.44	.916	1948	8	42	00
	13	4	02	55.29	+20	16	55.6	4.60	2.45	1.912	3253	8	40	58
	14	4	05	50.70	20	25	44.4	4.61	2.45	.908	4276	8	39	57
	15	4	08	46.14	20	34	21.5	4.62	2.46	.904	5013	8	38	56
	16	4	11	41.59	20	42	46.8	4.63	2.46	.900	5463	8	37	55
	17	4	14	37.06	20	51	00.3	4.64	2.47	.896	5620	8	36	54
	18	4	17	32.53	+20	59	02.0	4.65	2.47	1.892	5481	8	35	53
	19	4	20	27.99	21	06	51.8	4.66	2.48	.888	5037	8	34	52
	20	4	23	23.44	21	14	29.7	4.67	2.48	.884	4284	8	33	51
	21	4	26	18.88	21	21	55.6	4.68	2.49	.880	3213	8	32	50
	22	4	29	14.29	21	29	09.6	4.69	2.49	.876	1820	8	31	49
	23	4	32	09.66	+21	36	11.6	4.70	2.50	1.872	0094	8	30	48
	24	4	35	04.99	21	43	01.5	4.71	2.51	.867	8032	8	29	46
	25	4	38	00.26	21	49	39.4	4.72	2.51	.863	5627	8	28	45
	26	4	40	55.47	21	56	05.3	4.73	2.52	.859	2874	8	27	44
	27	4	43	50.60	22	02	19.1	4.74	2.52	.854	9768	8	26	42
	28	4	46	45.65	+22	08	20.9	4.75	2.53	1.850	6307	8	25	41
	29	4	49	40.58	22	14	10.6	4.76	2.53	.846	2489	8	24	39
	30	4	52	35.40	22	19	48.2	4.77	2.54	.841	8311	8	23	38
	31	4	55	30.09	22	25	13.8	4.79	2.55	.837	3773	8	22	36
	AUG. 1	4	58	24.63	22	30	27.2	4.80	2.55	.832	8873	8	21	34
	2	5	01	19.02	+22	35	28.6	4.81	2.56	1.828	3613	8	20	32
	3	5	04	13.23	22	40	17.9	4.82	2.57	.823	7991	8	19	29
	4	5	07	07.27	22	44	55.2	4.83	2.57	.819	2006	8	18	27
	5	5	10	01.12	22	49	20.4	4.85	2.58	.814	5661	8	17	24
	6	5	12	54.77	22	53	33.6	4.86	2.59	.809	8954	8	16	21
	7	5	15	48.21	+22	57	34.8	4.87	2.59	1.805	1885	8	15	18
	8	5	18	41.43	23	01	24.0	4.88	2.60	.800	4454	8	14	15
	9	5	21	34.43	23	05	01.3	4.90	2.61	.795	6661	8	13	11
	10	5	24	27.18	23	08	26.8	4.91	2.61	.790	8505	8	12	07
	11	5	27	19.69	23	11	40.4	4.92	2.62	.785	9985	8	11	03
	12	5	30	11.94	+23	14	42.3	4.94	2.63	1.781	1102	8	09	59
	13	5	33	03.93	23	17	32.5	4.95	2.63	.776	1850	8	08	54
	14	5	35	55.64	23	20	11.1	4.96	2.64	.771	2231	8	07	49
	15	5	38	47.06	23	22	38.0	4.98	2.65	.766	2240	8	06	44
	16	5	41	38.18	23	24	53.4	4.99	2.66	.761	1874	8	05	38
	17	5	44	29.00	+23	26	57.4	5.01	2.66	1.756	1125	8	04	33
	18	5	47	19.50	23	28	49.9	5.02	2.67	.750	9990	8	03	27
	19	5	50	09.68	23	30	31.1	5.04	2.68	.745	8461	8	02	20
	20	5	52	59.52	23	32	01.0	5.05	2.69	.740	6534	8	01	13
	21	5	55	49.01	23	33	19.6	5.07	2.70	.735	4202	8	00	06
	22	5	58	38.15	+23	34	27.2	5.08	2.70	1.730	1464	7	58	59
	23	6	01	26.91	23	35	23.7	5.10	2.71	.724	8311	7	57	51
	24	6	04	15.28	23	36	09.3	5.11	2.72	.719	4743	7	56	43
	25	6	07	03.24	23	36	44.0	5.13	2.73	.714	0756	7	55	34
	26	6	09	50.79	23	37	08.0	5.15	2.74	.708	6351	7	54	25
	27	6	12	37.90	+23	37	21.3	5.16	2.75	1.703	1524	7	53	15
	28	6	15	24.56	23	37	24.0	5.18	2.76	.697	6281	7	52	05
	29	6	18	10.75	23	37	16.2	5.20	2.77	.692	0616	7	50	55
	30	6	20	56.47	23	36	58.1	5.21	2.78	.686	4534	7	49	44
	31	6	23	41.70	23	36	29.6	5.23	2.78	.680	8035	7	48	32
SEPT.	1	6	26	26.42	+23	35	51.0	5.25	2.79	1.675	1121	7	47	21

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	H M S	O ' "	" "	" "	AU	H M S
SEPT. 2	6 29 10.63	+23 35 02.2	5.27	2.80	1.669 3793	7 46 08
3	6 31 54.32	23 34 03.6	5.29	2.81	.663 6055	7 44 55
4	6 34 37.47	23 32 55.0	5.30	2.82	.657 7905	7 43 42
5	6 37 20.07	23 31 36.8	5.32	2.83	.651 9347	7 42 28
6	6 40 02.13	23 30 08.9	5.34	2.84	.646 0384	7 41 13
7	6 42 43.61	+23 28 31.6	5.36	2.85	1.640 1015	7 39 58
8	6 45 24.53	23 26 45.0	5.38	2.86	.634 1246	7 38 42
9	6 48 04.86	23 24 49.2	5.40	2.87	.628 1075	7 37 26
10	6 50 44.60	23 22 44.3	5.42	2.89	.622 0503	7 36 09
11	6 53 23.74	23 20 30.6	5.44	2.90	.615 9531	7 34 51
12	6 56 02.27	+23 18 08.0	5.46	2.91	1.609 8160	7 33 33
13	6 58 40.18	23 15 36.8	5.48	2.92	.603 6386	7 32 14
14	7 01 17.46	23 12 57.2	5.51	2.93	.597 4209	7 30 55
15	7 03 54.11	23 10 09.1	5.53	2.94	.591 1624	7 29 35
16	7 06 30.12	23 07 12.8	5.55	2.95	.584 8630	7 28 14
17	7 09 05.48	+23 04 08.4	5.57	2.96	1.578 5220	7 26 53
18	7 11 40.18	23 00 56.1	5.59	2.98	.572 1393	7 25 31
19	7 14 14.22	22 57 36.0	5.62	2.99	.565 7145	7 24 08
20	7 16 47.56	22 54 08.4	5.64	3.00	.559 2474	7 22 45
21	7 19 20.21	22 50 33.3	5.66	3.01	.552 7380	7 21 21
22	7 21 52.15	+22 46 51.0	5.69	3.03	1.546 1863	7 19 56
23	7 24 23.36	22 43 01.6	5.71	3.04	.539 5923	7 18 31
24	7 26 53.83	22 39 05.3	5.74	3.05	.532 9563	7 17 04
25	7 29 23.54	22 35 02.3	5.76	3.07	.526 2786	7 15 37
26	7 31 52.48	22 30 52.6	5.79	3.08	.519 5592	7 14 10
27	7 34 20.65	+22 26 36.6	5.81	3.09	1.512 7988	7 12 41
28	7 36 48.02	22 22 14.3	5.84	3.11	.505 9975	7 11 12
29	7 39 14.59	22 17 46.0	5.87	3.12	.499 1561	7 09 42
30	7 41 40.34	22 13 11.7	5.89	3.14	.492 2748	7 08 11
OCT. 1	7 44 05.27	22 08 31.8	5.92	3.15	.485 3541	7 06 39
2	7 46 29.37	+22 03 46.4	5.95	3.17	1.478 3944	7 05 06
3	7 48 52.62	21 58 55.6	5.98	3.18	.471 3966	7 03 33
4	7 51 15.02	21 53 59.7	6.01	3.20	.464 3609	7 01 59
5	7 53 36.56	21 48 58.9	6.03	3.21	.457 2880	7 00 23
6	7 55 57.23	21 43 53.3	6.06	3.23	.450 1783	6 58 47
7	7 58 17.01	+21 38 43.2	6.09	3.24	1.443 0323	6 57 10
8	8 00 35.91	21 33 28.7	6.12	3.26	.435 8506	6 55 33
9	8 02 53.91	21 28 10.1	6.16	3.28	.428 6337	6 53 54
10	8 05 11.00	21 22 47.5	6.19	3.29	.421 3818	6 52 14
11	8 07 27.18	21 17 21.1	6.22	3.31	.414 0953	6 50 34
12	8 09 42.44	+21 11 51.2	6.25	3.33	1.406 7741	6 48 52
13	8 11 56.77	21 06 17.8	6.28	3.34	.399 4188	6 47 10
14	8 14 10.16	21 00 41.2	6.32	3.36	.392 0290	6 45 27
15	8 16 22.61	20 55 01.6	6.35	3.38	.384 6050	6 43 43
16	8 18 34.11	20 49 19.2	6.39	3.40	.377 1468	6 41 57
17	8 20 44.64	+20 43 34.3	6.42	3.42	1.369 6543	6 40 11
18	8 22 54.18	20 37 47.0	6.46	3.44	.362 1280	6 38 24
19	8 25 02.73	20 31 57.6	6.49	3.45	.354 5679	6 36 36
20	8 27 10.25	20 26 06.4	6.53	3.47	.346 9746	6 34 47
21	8 29 16.75	20 20 13.5	6.57	3.49	.339 3485	6 32 56
22	8 31 22.19	+20 14 19.2	6.60	3.51	1.331 6903	6 31 05
23	8 33 26.56	20 08 23.6	6.64	3.53	.324 0005	6 29 13
24	8 35 29.85	20 02 27.2	6.68	3.56	.316 2800	6 27 19
25	8 37 32.04	19 56 30.0	6.72	3.58	.308 5296	6 25 25
26	8 39 33.11	19 50 32.3	6.76	3.60	.300 7501	6 23 29
27	8 41 33.05	+19 44 34.3	6.80	3.62	1.292 9425	6 21 33
28	8 43 31.83	19 38 36.3	6.84	3.64	.285 1078	6 19 35
29	8 45 29.46	19 32 38.5	6.89	3.66	.277 2470	6 17 36
30	8 47 25.91	19 26 41.2	6.93	3.69	.269 3610	6 15 35
31	8 49 21.16	19 20 44.6	6.97	3.71	.261 4510	6 13 34
NOV. 1	8 51 15.21	+19 14 49.0	7.02	3.73	1.253 5180	6 11 31

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	''	''	''	AU		H	M	S
NOV.	2	8	53	08.02	+19	08	54.6	7.06	3.76	1.245	5634	6	09	27
	3	8	54	59.60	19	03	01.6	7.11	3.78	.237	5880	6	07	22
	4	8	56	49.92	18	57	10.3	7.15	3.81	.229	5932	6	05	16
	5	8	58	38.96	18	51	21.0	7.20	3.83	.221	5800	6	03	08
	6	9	00	26.71	18	45	34.0	7.25	3.86	.213	5495	6	00	59
	7	9	02	13.15	+18	39	49.3	7.29	3.88	1.205	5028	5	58	49
	8	9	03	58.28	18	34	07.4	7.34	3.91	.197	4405	5	56	37
	9	9	05	42.07	18	28	28.4	7.39	3.93	.189	3639	5	54	25
	10	9	07	24.50	18	22	52.6	7.44	3.96	.181	2736	5	52	10
	11	9	09	05.58	18	17	20.2	7.50	3.99	.173	1705	5	49	55
	12	9	10	45.26	+18	11	51.5	7.55	4.02	1.165	0553	5	47	38
13	9	12	23.54	18	06	26.8	7.60	4.05	.156	9288	5	45	19	
14	9	14	00.39	18	01	06.3	7.65	4.07	.148	7917	5	43	00	
15	9	15	35.78	17	55	50.4	7.71	4.10	.140	6451	5	40	38	
16	9	17	09.69	17	50	39.4	7.77	4.13	.132	4898	5	38	15	
17	9	18	42.07	+17	45	33.5	7.82	4.16	1.124	3272	5	35	51	
18	9	20	12.91	17	40	33.1	7.88	4.19	.116	1585	5	33	25	
19	9	21	42.17	17	35	38.5	7.94	4.22	.107	9851	5	30	58	
20	9	23	09.81	17	30	49.9	8.00	4.26	.099	8085	5	28	29	
21	9	24	35.82	17	26	07.7	8.06	4.29	.091	6304	5	25	58	
22	9	26	00.16	+17	21	32.1	8.12	4.32	1.083	4526	5	23	26	
23	9	27	22.79	17	17	03.5	8.18	4.35	.075	2766	5	20	52	
24	9	28	43.68	17	12	42.2	8.24	4.39	.067	1047	5	18	16	
25	9	30	02.81	17	08	28.4	8.30	4.42	.058	9384	5	15	39	
26	9	31	20.14	17	04	22.6	8.37	4.45	.050	7800	5	12	59	
27	9	32	35.64	+17	00	24.9	8.43	4.49	1.042	6314	5	10	18	
28	9	33	49.27	16	56	35.8	8.50	4.52	.034	4949	5	07	35	
29	9	35	01.00	16	52	55.5	8.57	4.56	.026	3727	5	04	50	
30	9	36	10.79	16	49	24.3	8.64	4.60	.018	2672	5	02	03	
DEC.	1	9	37	18.62	16	46	02.6	8.71	4.63	.010	1805	4	59	14
	2	9	38	24.44	+16	42	50.7	8.78	4.67	1.002	1149	4	56	24
	3	9	39	28.23	16	39	48.8	8.85	4.71	0.994	0729	4	53	31
	4	9	40	29.95	16	36	57.2	8.92	4.75	.986	0566	4	50	36
	5	9	41	29.56	16	34	16.3	8.99	4.78	.978	0685	4	47	39
	6	9	42	27.04	16	31	46.3	9.06	4.82	.970	1107	4	44	40
	7	9	43	22.35	+16	29	27.4	9.14	4.86	0.962	1853	4	41	38
	8	9	44	15.46	16	27	20.0	9.22	4.90	.954	2946	4	38	35
	9	9	45	06.33	16	25	24.4	9.29	4.94	.946	4408	4	35	29
	10	9	45	54.92	16	23	40.8	9.37	4.99	.938	6259	4	32	21
	11	9	46	41.19	16	22	09.5	9.45	5.03	.930	8523	4	29	11
12	9	47	25.10	+16	20	50.9	9.53	5.07	0.923	1222	4	25	58	
13	9	48	06.59	16	19	45.3	9.61	5.11	.915	4382	4	22	43	
14	9	48	45.63	16	18	52.9	9.69	5.16	.907	8026	4	19	26	
15	9	49	22.15	16	18	14.0	9.77	5.20	.900	2183	4	16	06	
16	9	49	56.12	16	17	49.0	9.85	5.24	.892	6884	4	12	43	
17	9	50	27.48	+16	17	38.1	9.93	5.29	0.885	2155	4	09	18	
18	9	50	56.17	16	17	41.6	10.02	5.33	.877	8033	4	05	50	
19	9	51	22.16	16	17	59.6	10.10	5.38	.870	4550	4	02	20	
20	9	51	45.40	16	18	32.6	10.19	5.42	.863	1739	3	58	46	
21	9	52	05.83	16	19	20.6	10.27	5.47	.855	9638	3	55	10	
22	9	52	23.42	+16	20	23.9	10.36	5.51	0.848	8284	3	51	31	
23	9	52	38.12	16	21	42.7	10.45	5.56	.841	7714	3	47	50	
24	9	52	49.88	16	23	17.1	10.53	5.61	.834	7967	3	44	05	
25	9	52	58.67	16	25	07.2	10.62	5.65	.827	9085	3	40	17	
26	9	53	04.44	16	27	13.3	10.71	5.70	.821	1107	3	36	27	
27	9	53	07.16	+16	29	35.4	10.80	5.75	0.814	4076	3	32	33	
28	9	53	06.79	16	32	13.6	10.89	5.79	.807	8033	3	28	36	
29	9	53	03.30	16	35	07.8	10.97	5.84	.801	3024	3	24	36	
30	9	52	56.66	16	38	18.1	11.06	5.89	.794	9089	3	20	34	
31	9	52	46.85	16	41	44.5	11.15	5.93	0.788	6270	3	16	27	

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	H	M	S	O	'	"			AU		H	M	S
JAN.	1	9 52	33.84	+16 45	26.8		11.24	5.98	0.782	4613	3 12	18	
	2	9 52	17.64	16 49	25.0		11.33	6.03	.776	4155	3 08	06	
	3	9 51	58.21	16 53	38.9		11.41	6.07	.770	4939	3 03	50	
	4	9 51	35.56	16 58	08.3		11.50	6.12	.764	7004	2 59	31	
	5	9 51	09.67	17 02	52.9		11.59	6.17	.759	0391	2 55	09	
	6	9 50	40.55	+17 07	52.6		11.67	6.21	0.753	5140	2 50	44	
	7	9 50	08.19	17 13	07.0		11.75	6.26	.748	1291	2 46	15	
	8	9 49	32.60	17 18	35.9		11.84	6.30	.742	8882	2 41	44	
	9	9 48	53.77	17 24	18.9		11.92	6.34	.737	7955	2 37	09	
	10	9 48	11.72	17 30	15.6		12.00	6.39	.732	8550	2 32	31	
	11	9 47	26.46	+17 36	25.5		12.08	6.43	0.728	0708	2 27	50	
	12	9 46	38.00	17 42	48.3		12.16	6.47	.723	4471	2 23	05	
	13	9 45	46.38	17 49	23.3		12.23	6.51	.718	9882	2 18	18	
	14	9 44	51.61	17 56	10.0		12.30	6.55	.714	6985	2 13	27	
	15	9 43	53.76	18 03	07.8		12.38	6.59	.710	5824	2 08	33	
	16	9 42	52.85	+18 10	15.9		12.44	6.62	0.706	6441	2 03	37	
	17	9 41	48.96	18 17	33.7		12.51	6.66	.702	8880	1 58	37	
	18	9 40	42.15	18 25	00.3		12.58	6.69	.699	3183	1 53	35	
	19	9 39	32.50	18 32	34.9		12.64	6.72	.695	9390	1 48	29	
	20	9 38	20.09	18 40	16.7		12.69	6.76	.692	7544	1 43	21	
	21	9 37	05.02	+18 48	04.8		12.75	6.78	0.689	7684	1 38	10	
	22	9 35	47.40	18 55	58.1		12.80	6.81	.686	9848	1 32	57	
	23	9 34	27.33	19 03	55.7		12.85	6.84	.684	4074	1 27	42	
	24	9 33	04.94	19 11	56.7		12.89	6.86	.682	0395	1 22	24	
	25	9 31	40.37	19 19	59.9		12.93	6.88	.679	8844	1 17	04	
	26	9 30	13.77	+19 28	04.3		12.97	6.90	0.677	9453	1 11	42	
	27	9 28	45.28	19 36	08.8		13.00	6.92	.676	2247	1 06	18	
	28	9 27	15.07	19 44	12.3		13.03	6.94	.674	7250	1 00	52	
	29	9 25	43.31	19 52	13.7		13.06	6.95	.673	4480	0 55	25	
	30	9 24	10.18	20 00	12.0		13.08	6.96	.672	3954	0 49	56	
FEB.	31	9 22	35.86	+20 08	05.9		13.09	6.97	0.671	5684	0 44	27	
	1	9 21	00.54	20 15	54.6		13.11	6.97	.670	9681	0 38	56	
	2	9 19	24.40	20 23	37.0		13.11	6.98	.670	5947	0 33	25	
	3	9 17	47.63	20 31	12.1		13.12	6.98	.670	4489	0 27	53	
	4	9 16	10.42	20 38	39.0		13.11	6.98	.670	5304	0 22	20	
	5	9 14	32.95	+20 45	56.9		13.11	6.98	0.670	8392	0 16	47	
	6	9 12	55.41	20 53	04.9		13.10	6.97	.671	3749	0 11	15	
	7	9 11	17.99	21 00	02.2		13.08	6.96	.672	1369	0 05	42	
	8	9 09	40.86	21 06	48.0		13.06	6.95	.673	1243	0 00	10	
	9	9 08	04.22	21 13	21.7		13.04	6.94	.674	3363	23 49	06	
	10	9 06	28.24	+21 19	42.7		13.01	6.93	0.675	7715	23 43	36	
	11	9 04	53.10	21 25	50.2		12.98	6.91	.677	4290	23 38	07	
	12	9 03	18.99	21 31	43.9		12.95	6.89	.679	3071	23 32	38	
	13	9 01	46.07	21 37	23.1		12.91	6.87	.681	4041	23 27	11	
	14	9 00	14.52	21 42	47.5		12.86	6.84	.683	7181	23 21	46	
	15	8 58	44.50	+21 47	56.6		12.81	6.82	0.686	2471	23 16	22	
	16	8 57	16.18	21 52	50.2		12.76	6.79	.688	9888	23 11	00	
	17	8 55	49.72	21 57	28.0		12.71	6.76	.691	9406	23 05	41	
	18	8 54	25.25	22 01	49.7		12.65	6.73	.695	1000	23 00	23	
	19	8 53	02.93	22 05	55.2		12.59	6.70	.698	4640	22 55	07	
	20	8 51	42.90	+22 09	44.4		12.53	6.67	0.702	0297	22 49	54	
	21	8 50	25.27	22 13	17.3		12.46	6.63	.705	7938	22 44	43	
	22	8 49	10.18	22 16	33.7		12.39	6.59	.709	7530	22 39	35	
	23	8 47	57.73	22 19	33.6		12.32	6.56	.713	9036	22 34	30	
	24	8 46	48.04	22 22	17.2		12.24	6.52	.718	2417	22 29	28	
	25	8 45	41.20	+22 24	44.5		12.17	6.48	0.722	7635	22 24	28	
	26	8 44	37.30	22 26	55.7		12.09	6.43	.727	4644	22 19	31	
	27	8 43	36.43	22 28	50.8		12.01	6.39	.732	3402	22 14	38	
	28	8 42	38.65	22 30	30.1		11.93	6.35	.737	3862	22 09	47	
MAR.	1	8 41	44.01	22 31	53.7		11.84	6.30	.742	5976	22 05	00	
	2	8 40	52.57	+22 33	02.0		11.76	6.26	0.747	9700	22 00	16	

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	H	M	S	O	'	"	"	"	AU	H	M	S
MAR. 3	8	40	04.36	+22	33	55.2	11.67	6.21	0.753 4987	21	55	35
4	8	39	19.41	22	34	33.6	11.58	6.16	.759 1790	21	50	57
5	8	38	37.73	22	34	57.5	11.50	6.12	.765 0063	21	46	23
6	8	37	59.33	22	35	07.2	11.41	6.07	.770 9763	21	41	52
7	8	37	24.21	22	35	03.1	11.32	6.02	.777 0847	21	37	24
8	8	36	52.37	+22	34	45.3	11.23	5.97	0.783 3274	21	32	59
9	8	36	23.80	22	34	14.3	11.14	5.93	.789 7000	21	28	38
10	8	35	58.50	22	33	30.3	11.04	5.88	.796 1986	21	24	20
11	8	35	36.44	22	32	33.5	10.95	5.83	.802 8195	21	20	05
12	8	35	17.60	22	31	24.4	10.86	5.78	.809 5587	21	15	53
13	8	35	01.97	+22	30	03.1	10.77	5.73	0.816 4124	21	11	44
14	8	34	49.52	22	28	29.9	10.68	5.68	.823 3771	21	07	39
15	8	34	40.22	22	26	45.2	10.59	5.64	.830 4492	21	03	36
16	8	34	34.04	22	24	49.0	10.50	5.59	.837 6250	20	59	37
17	8	34	30.96	22	22	41.8	10.41	5.54	.844 9012	20	55	41
18	8	34	30.92	+22	20	23.7	10.32	5.49	0.852 2742	20	51	47
19	8	34	33.90	22	17	55.0	10.23	5.44	.859 7410	20	47	57
20	8	34	39.87	22	15	15.9	10.14	5.40	.867 2978	20	44	10
21	8	34	48.77	22	12	26.5	10.05	5.35	.874 9415	20	40	25
22	8	35	00.56	22	09	27.2	9.96	5.30	.882 6690	20	36	43
23	8	35	15.22	+22	06	18.1	9.88	5.26	0.890 4766	20	33	04
24	8	35	32.69	22	02	59.3	9.79	5.21	.898 3613	20	29	28
25	8	35	52.94	21	59	31.0	9.70	5.16	.906 3196	20	25	55
26	8	36	15.92	21	55	53.3	9.62	5.12	.914 3479	20	22	24
27	8	36	41.58	21	52	06.5	9.53	5.07	.922 4429	20	18	56
28	8	37	09.87	+21	48	10.5	9.45	5.03	0.930 6010	20	15	30
29	8	37	40.75	21	44	05.8	9.37	4.98	.938 8190	20	12	07
30	8	38	14.17	21	39	52.3	9.29	4.94	.947 0933	20	08	47
31	8	38	50.05	21	35	30.2	9.20	4.90	.955 4212	20	05	28
APR. 1	8	39	28.35	21	30	59.6	9.12	4.86	.963 7993	20	02	13
2	8	40	09.00	+21	26	20.8	9.05	4.81	0.972 2249	19	58	59
3	8	40	51.95	21	21	33.7	8.97	4.77	.980 6954	19	55	48
4	8	41	37.14	21	16	38.6	8.89	4.73	.989 2082	19	52	39
5	8	42	24.51	21	11	35.6	8.81	4.69	0.997 7609	19	49	32
6	8	43	14.01	21	06	24.6	8.74	4.65	1.006 3514	19	46	27
7	8	44	05.59	+21	01	05.8	8.66	4.61	1.014 9772	19	43	24
8	8	44	59.19	20	55	39.3	8.59	4.57	.023 6366	19	40	23
9	8	45	54.77	20	50	05.2	8.52	4.53	.032 3275	19	37	24
10	8	46	52.28	20	44	23.4	8.45	4.50	.041 0480	19	34	27
11	8	47	51.66	20	38	34.2	8.38	4.46	.049 7963	19	31	31
12	8	48	52.88	+20	32	37.5	8.31	4.42	1.058 5705	19	28	38
13	8	49	55.89	20	26	33.4	8.24	4.38	.067 3691	19	25	46
14	8	51	00.65	20	20	21.9	8.17	4.35	.076 1903	19	22	56
15	8	52	07.10	20	14	03.1	8.10	4.31	.085 0325	19	20	08
16	8	53	15.23	20	07	37.1	8.04	4.28	.093 8943	19	17	21
17	8	54	24.97	+20	01	03.9	7.97	4.24	1.102 7739	19	14	36
18	8	55	36.29	19	54	23.6	7.91	4.21	.111 6699	19	11	52
19	8	56	49.16	19	47	36.0	7.85	4.18	.120 5805	19	09	10
20	8	58	03.55	19	40	41.4	7.79	4.14	.129 5043	19	06	29
21	8	59	19.40	19	33	39.6	7.72	4.11	.138 4394	19	03	50
22	9	00	36.70	+19	26	30.8	7.66	4.08	1.147 3843	19	01	12
23	9	01	55.41	19	19	14.9	7.61	4.05	.156 3370	18	58	35
24	9	03	15.50	19	11	51.9	7.55	4.02	.165 2955	18	56	00
25	9	04	36.93	19	04	21.9	7.49	3.99	.174 2582	18	53	26
26	9	05	59.67	18	56	44.9	7.43	3.96	.183 2230	18	50	54
27	9	07	23.68	+18	49	00.9	7.38	3.93	1.192 1882	18	48	23
28	9	08	48.93	18	41	10.1	7.32	3.90	.201 1522	18	45	53
29	9	10	15.38	18	33	12.4	7.27	3.87	.210 1134	18	43	24
30	9	11	42.98	18	25	07.9	7.21	3.84	.219 0703	18	40	56
MAY 1	9	13	11.70	18	16	56.6	7.16	3.81	.228 0215	18	38	29
2	9	14	41.52	+18	08	38.6	7.11	3.78	1.236 9659	18	36	03

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
	H	M	S	°	'	"				
									AU	H M S
MAY	3	9 16	12.39	+18 00	13.8		7.06	3.76	1.245 9024	18 33 39
	4	9 17	44.28	17 51	42.5		7.01	3.73	.254 8301	18 31 15
	5	9 19	17.17	17 43	04.5		6.96	3.70	.263 7480	18 28 52
	6	9 20	51.03	17 34	19.8		6.91	3.68	.272 6550	18 26 31
	7	9 22	25.83	17 25	28.6		6.86	3.65	.281 5506	18 24 10
	8	9 24	01.54	+17 16	30.9		6.81	3.63	1.290 4337	18 21 50
	9	9 25	38.14	17 07	26.6		6.77	3.60	.299 3038	18 19 31
	10	9 27	15.61	16 58	15.9		6.72	3.58	.308 1601	18 17 13
	11	9 28	53.92	16 48	58.7		6.68	3.55	.317 0019	18 14 55
	12	9 30	33.06	16 39	35.1		6.63	3.53	.325 8286	18 12 39
	13	9 32	12.99	+16 30	05.2		6.59	3.51	1.334 6395	18 10 23
	14	9 33	53.70	16 20	28.9		6.55	3.48	.343 4340	18 08 08
	15	9 35	35.18	16 10	46.2		6.50	3.46	.352 2115	18 05 53
	16	9 37	17.39	16 00	57.3		6.46	3.44	.360 9713	18 03 40
	17	9 39	00.33	15 51	02.1		6.42	3.42	.369 7126	18 01 27
	18	9 40	43.98	+15 41	00.7		6.38	3.40	1.378 4346	17 59 15
	19	9 42	28.33	15 30	53.0		6.34	3.37	.387 1367	17 57 03
	20	9 44	13.36	15 20	39.0		6.30	3.35	.395 8178	17 54 52
	21	9 45	59.06	15 10	18.9		6.26	3.33	.404 4770	17 52 42
	22	9 47	45.41	14 59	52.6		6.22	3.31	.413 1130	17 50 33
	23	9 49	32.41	+14 49	20.1		6.19	3.29	1.421 7249	17 48 24
	24	9 51	20.03	14 38	41.4		6.15	3.27	.430 3116	17 46 16
	25	9 53	08.27	14 27	56.8		6.11	3.25	.438 8718	17 44 08
	26	9 54	57.09	14 17	06.1		6.08	3.23	.447 4046	17 42 01
	27	9 56	46.48	14 06	09.4		6.04	3.21	.455 9090	17 39 54
	28	9 58	36.43	+13 55	06.9		6.01*	3.20	1.464 3844	17 37 48
	29	10 00	26.91	13 43	58.5		5.97	3.18	.472 8298	17 35 43
	30	10 02	17.91	13 32	44.4		5.94	3.16	.481 2448	17 33 38
	31	10 04	09.42	13 21	24.5		5.90	3.14	.489 6289	17 31 33
JUNE	1	10 06	01.42	13 09	58.9		5.87	3.12	.497 9816	17 29 29
	2	10 07	53.89	+12 58	27.7		5.84	3.11	1.506 3023	17 27 26
	3	10 09	46.84	12 46	50.9		5.81	3.09	.514 5911	17 25 22
	4	10 11	40.24	12 35	08.6		5.77	3.07	.522 8473	17 23 20
	5	10 13	34.08	12 23	20.7		5.74	3.06	.531 0708	17 21 18
	6	10 15	28.37	12 11	27.5		5.71	3.04	.539 2613	17 19 16
	7	10 17	23.07	+11 59	28.9		5.68	3.02	1.547 4186	17 17 14
	8	10 19	18.20	11 47	24.9		5.65	3.01	.555 5425	17 15 13
	9	10 21	13.73	11 35	15.7		5.62	2.99	.563 6329	17 13 13
	10	10 23	09.67	11 23	01.3		5.60	2.98	.571 6895	17 11 13
	11	10 25	06.00	11 10	41.8		5.57	2.96	.579 7122	17 09 13
	12	10 27	02.71	+10 58	17.1		5.54	2.95	1.587 7008	17 07 13
	13	10 28	59.81	10 45	47.4		5.51	2.93	.595 6552	17 05 14
	14	10 30	57.29	10 33	12.7		5.48	2.92	.603 5749	17 03 16
	15	10 32	55.13	10 20	33.0		5.46	2.90	.611 4597	17 01 18
	16	10 34	53.36	10 07	48.4		5.43	2.89	.619 3091	16 59 20
	17	10 36	51.95	+ 9 54	58.8		5.40	2.88	1.627 1226	16 57 22
	18	10 38	50.91	9 42	04.4		5.38	2.86	.634 8996	16 55 25
	19	10 40	50.24	9 29	05.1		5.35	2.85	.642 6395	16 53 28
	20	10 42	49.93	9 16	01.1		5.33	2.84	.650 3415	16 51 32
	21	10 44	49.97	9 02	52.4		5.30	2.82	.658 0050	16 49 36
	22	10 46	50.37	+ 8 49	39.0		5.28	2.81	1.665 6291	16 47 40
	23	10 48	51.12	8 36	21.1		5.26	2.80	.673 2133	16 45 44
	24	10 50	52.20	8 22	58.7		5.23	2.78	.680 7568	16 43 49
	25	10 52	53.60	8 09	31.8		5.21	2.77	.688 2592	16 41 54
	26	10 54	55.34	7 56	00.7		5.19	2.76	.695 7200	16 40 00
	27	10 56	57.39	+ 7 42	25.3		5.16	2.75	1.703 1388	16 38 06
	28	10 58	59.75	7 28	45.6		5.14	2.74	.710 5156	16 36 12
	29	11 01	02.43	7 15	01.9		5.12	2.72	.717 8500	16 34 19
	30	11 03	05.41	7 01	14.1		5.10	2.71	.725 1421	16 32 25
JULY	1	11 05	08.69	6 47	22.4		5.08	2.70	.732 3915	16 30 32
	2	11 07	12.28	+ 6 33	26.7		5.06	2.69	1.739 5985	16 28 40

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.			
		H	M	S	°	'	"				"	"	"	H
JULY	3	11	09	16.16	+	6	19	27.2	5.03	2.68	1.746 7627	16	26	47
	4	11	11	20.34		6	05	24.0	5.01	2.67	.753 8843	16	24	55
	5	11	13	24.82		5	51	17.1	4.99	2.66	.760 9634	16	23	04
	6	11	15	29.59		5	37	06.6	4.97	2.65	.768 0000	16	21	12
	7	11	17	34.66		5	22	52.6	4.95	2.64	.774 9941	16	19	21
	8	11	19	40.01	+	5	08	35.2	4.94	2.63	1.781 9460	16	17	30
	9	11	21	45.66		4	54	14.4	4.92	2.62	.788 8558	16	15	40
	10	11	23	51.60		4	39	50.3	4.90	2.61	.795 7234	16	13	49
	11	11	25	57.84		4	25	23.0	4.88	2.60	.802 5489	16	11	59
	12	11	28	04.37		4	10	52.6	4.86	2.59	.809 3324	16	10	10
	13	11	30	11.20	+	3	56	19.0	4.84	2.58	1.816 0735	16	08	20
	14	11	32	18.34		3	41	42.4	4.82	2.57	.822 7723	16	06	31
15	11	34	25.79		3	27	02.8	4.81	2.56	.829 4285	16	04	43	
16	11	36	33.56		3	12	20.3	4.79	2.55	.836 0416	16	02	54	
17	11	38	41.64		2	57	34.9	4.77	2.54	.842 6114	16	01	06	
18	11	40	50.04	+	2	42	46.7	4.76	2.53	1.849 1372	15	59	18	
19	11	42	58.77		2	27	55.8	4.74	2.52	.855 6188	15	57	31	
20	11	45	07.81		2	13	02.2	4.72	2.51	.862 0553	15	55	43	
21	11	47	17.17		1	58	06.1	4.71	2.50	.868 4466	15	53	57	
22	11	49	26.86		1	43	07.6	4.69	2.50	.874 7920	15	52	10	
23	11	51	36.86	+	1	28	06.7	4.67	2.49	1.881 0914	15	50	24	
24	11	53	47.18		1	13	03.6	4.66	2.48	.887 3443	15	48	38	
25	11	55	57.82		0	57	58.3	4.64	2.47	.893 5506	15	46	52	
26	11	58	08.79		0	42	51.0	4.63	2.46	.899 7101	15	45	07	
27	12	00	20.07		0	27	41.7	4.61	2.46	.905 8230	15	43	22	
28	12	02	31.68	+	0	12	30.4	4.60	2.45	1.911 8891	15	41	38	
29	12	04	43.62	-	0	02	42.5	4.59	2.44	.917 9084	15	39	53	
30	12	06	55.89		0	17	57.2	4.57	2.43	.923 8811	15	38	09	
31	12	09	08.49		0	33	13.5	4.56	2.43	.929 8074	15	36	26	
AUG.	1	12	11	21.42		0	48	31.2	4.54	2.42	.935 6872	15	34	43
2	12	13	34.69	-	1	03	50.4	4.53	2.41	1.941 5209	15	33	00	
3	12	15	48.30		1	19	10.8	4.52	2.40	.947 3087	15	31	17	
4	12	18	02.25		1	34	32.4	4.50	2.40	.953 0507	15	29	35	
5	12	20	16.54		1	49	55.1	4.49	2.39	.958 7475	15	27	53	
6	12	22	31.18		2	05	18.7	4.48	2.38	.964 3991	15	26	11	
7	12	24	46.17	-	2	20	43.3	4.46	2.38	1.970 0060	15	24	30	
8	12	27	01.52		2	36	08.6	4.45	2.37	.975 5682	15	22	49	
9	12	29	17.24		2	51	34.7	4.44	2.36	.981 0861	15	21	09	
10	12	31	33.33		3	07	01.3	4.43	2.36	.986 5595	15	19	29	
11	12	33	49.80		3	22	28.6	4.41	2.35	.991 9887	15	17	49	
12	12	36	06.67	-	3	37	56.3	4.40	2.34	1.997 3734	15	16	10	
13	12	38	23.93		3	53	24.4	4.39	2.34	2.002 7135	15	14	31	
14	12	40	41.59		4	08	52.7	4.38	2.33	.008 0088	15	12	52	
15	12	42	59.66		4	24	21.3	4.37	2.32	.013 2589	15	11	14	
16	12	45	18.14		4	39	50.0	4.36	2.32	.018 4635	15	09	36	
17	12	47	37.04	-	4	55	18.6	4.35	2.31	2.023 6224	15	07	59	
18	12	49	56.36		5	10	47.2	4.33	2.31	.028 7350	15	06	22	
19	12	52	16.09		5	26	15.4	4.32	2.30	.033 8013	15	04	46	
20	12	54	36.26		5	41	43.3	4.31	2.30	.038 8209	15	03	10	
21	12	56	56.85		5	57	10.7	4.30	2.29	.043 7936	15	01	34	
22	12	59	17.88	-	6	12	37.5	4.29	2.28	2.048 7194	14	59	59	
23	13	01	39.34		6	28	03.5	4.28	2.28	.053 5983	14	58	24	
24	13	04	01.25		6	43	28.7	4.27	2.27	.058 4302	14	56	50	
25	13	06	23.60		6	58	53.0	4.26	2.27	.063 2152	14	55	16	
26	13	08	46.41		7	14	16.1	4.25	2.26	.067 9536	14	53	43	
27	13	11	09.67	-	7	29	38.0	4.24	2.26	2.072 6454	14	52	10	
28	13	13	33.39		7	44	58.6	4.23	2.25	.077 2908	14	50	37	
29	13	15	57.57		8	00	17.6	4.22	2.25	.081 8901	14	49	05	
30	13	18	22.22		8	15	35.1	4.21	2.24	.086 4436	14	47	34	
31	13	20	47.34		8	30	50.8	4.21	2.24	.090 9516	14	46	03	
SEPT.	1	13	23	12.94	-	8	46	04.6	4.20	2.23	2.095 4144	14	44	32

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.		
		H	M	S	°	'	"	"	"	AU	H	M	S
SEPT.	2	13	25	39.02	- 9	01	16.5	4.19	2.23	2.099 8326	14	43	02
	3	13	28	05.58	9	16	26.1	4.18	2.22	.104 2064	14	41	33
	4	13	30	32.63	9	31	33.5	4.17	2.22	.108 5364	14	40	04
	5	13	33	00.18	9	46	38.4	4.16	2.22	.112 8228	14	38	35
	6	13	35	28.24	10	01	40.9	4.15	2.21	.117 0663	14	37	07
	7	13	37	56.82	-10	16	40.7	4.15	2.21	2.121 2669	14	35	39
	8	13	40	25.92	10	31	37.7	4.14	2.20	.125 4249	14	34	12
	9	13	42	55.56	10	46	31.9	4.13	2.20	.129 5401	14	32	46
	10	13	45	25.74	11	01	23.1	4.12	2.19	.133 6126	14	31	20
	11	13	47	56.47	11	16	11.1	4.11	2.19	.137 6424	14	29	54
	12	13	50	27.76	-11	30	56.0	4.11	2.19	2.141 6292	14	28	30
	13	13	52	59.60	11	45	37.4	4.10	2.18	.145 5730	14	27	05
	14	13	55	32.01	12	00	15.3	4.09	2.18	.149 4733	14	25	42
	15	13	58	04.99	12	14	49.6	4.08	2.17	.153 3302	14	24	18
	16	14	00	38.53	12	29	20.0	4.08	2.17	.157 1432	14	22	56
	17	14	03	12.66	-12	43	46.4	4.07	2.17	2.160 9124	14	21	34
18	14	05	47.37	12	58	08.7	4.06	2.16	.164 6377	14	20	12	
19	14	08	22.66	13	12	26.7	4.06	2.16	.168 3190	14	18	52	
20	14	10	58.55	13	26	40.2	4.05	2.15	.171 9563	14	17	31	
21	14	13	35.03	13	40	49.2	4.04	2.15	.175 5497	14	16	12	
22	14	16	12.11	-13	54	53.4	4.04	2.15	2.179 0994	14	14	53	
23	14	18	49.80	14	08	52.7	4.03	2.14	.182 6055	14	13	34	
24	14	21	28.09	14	22	46.9	4.02	2.14	.186 0682	14	12	16	
25	14	24	06.99	14	36	35.9	4.02	2.14	.189 4880	14	10	59	
26	14	26	46.50	14	50	19.4	4.01	2.13	.192 8650	14	09	43	
27	14	29	26.62	-15	03	57.4	4.00	2.13	2.196 1996	14	08	27	
28	14	32	07.36	15	17	29.7	4.00	2.13	.199 4921	14	07	11	
29	14	34	48.72	15	30	56.0	3.99	2.12	.202 7429	14	05	56	
30	14	37	30.70	15	44	16.3	3.99	2.12	.205 9527	14	04	42	
OCT.	1	14	40	13.30	15	57	30.3	3.98	2.12	.209 1219	14	03	29
	2	14	42	56.53	-16	10	37.8	3.98	2.12	2.212 2511	14	02	16
	3	14	45	40.39	16	23	38.8	3.97	2.11	.215 3408	14	01	04
	4	14	48	24.90	16	36	33.0	3.96	2.11	.218 3916	13	59	52
	5	14	51	10.05	16	49	20.3	3.96	2.11	.221 4037	13	58	41
	6	14	53	55.86	17	02	00.5	3.95	2.10	.224 3776	13	57	31
	7	14	56	42.33	-17	14	33.6	3.95	2.10	2.227 3135	13	56	21
	8	14	59	29.46	17	26	59.3	3.94	2.10	.230 2115	13	55	12
	9	15	02	17.25	17	39	17.5	3.94	2.10	.233 0716	13	54	04
	10	15	05	05.72	17	51	28.0	3.93	2.09	.235 8937	13	52	56
	11	15	07	54.85	18	03	30.7	3.93	2.09	.238 6779	13	51	49
	12	15	10	44.66	-18	15	25.3	3.92	2.09	2.241 4239	13	50	43
	13	15	13	35.13	18	27	11.7	3.92	2.09	.244 1318	13	49	37
	14	15	16	26.29	18	38	49.8	3.91	2.08	.246 8013	13	48	32
	15	15	19	18.11	18	50	19.2	3.91	2.08	.249 4324	13	47	28
	16	15	22	10.61	19	01	40.0	3.90	2.08	.252 0251	13	46	24
17	15	25	03.79	-19	12	51.8	3.90	2.08	2.254 5795	13	45	21	
18	15	27	57.64	19	23	54.5	3.90	2.07	.257 0955	13	44	19	
19	15	30	52.17	19	34	47.9	3.89	2.07	.259 5735	13	43	18	
20	15	33	47.37	19	45	31.9	3.89	2.07	.262 0133	13	42	17	
21	15	36	43.24	19	56	06.2	3.88	2.07	.264 4154	13	41	16	
22	15	39	39.78	-20	06	30.7	3.88	2.06	2.266 7800	13	40	17	
23	15	42	36.98	20	16	45.2	3.88	2.06	.269 1073	13	39	18	
24	15	45	34.84	20	26	49.6	3.87	2.06	.271 3977	13	38	19	
25	15	48	33.35	20	36	43.6	3.87	2.06	.273 6516	13	37	22	
26	15	51	32.52	20	46	27.0	3.86	2.06	.275 8694	13	36	25	
27	15	54	32.33	-20	55	59.7	3.86	2.05	2.278 0516	13	35	29	
28	15	57	32.78	21	05	21.4	3.86	2.05	.280 1988	13	34	33	
29	16	00	33.87	21	14	32.1	3.85	2.05	.282 3114	13	33	38	
30	16	03	35.60	21	23	31.5	3.85	2.05	.284 3902	13	32	43	
31	16	06	37.95	21	32	19.4	3.85	2.05	.286 4357	13	31	50	
NOV.	1	16	09	40.94	-21	40	55.7	3.84	2.05	2.288 4487	13	30	56

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	O	'	"			AU		H	M	S
NOV.	2	16	12	44.55	-21	49	20.2	3.84	2.04	2.290	4295	13	30	04
	3	16	15	48.80	21	57	32.8	3.84	2.04	.292	3788	13	29	12
	4	16	18	53.66	22	05	33.3	3.83	2.04	.294	2970	13	28	21
	5	16	21	59.14	22	13	21.6	3.83	2.04	.296	1842	13	27	30
	6	16	25	05.24	22	20	57.5	3.83	2.04	.298	0406	13	26	40
	7	16	28	11.94	-22	28	20.8	3.82	2.03	2.299	8663	13	25	50
	8	16	31	19.23	22	35	31.5	3.82	2.03	.301	6612	13	25	01
	9	16	34	27.12	22	42	29.3	3.82	2.03	.303	4254	13	24	13
	10	16	37	35.60	22	49	14.0	3.81	2.03	.305	1590	13	23	25
	11	16	40	44.64	22	55	45.5	3.81	2.03	.306	8617	13	22	38
	12	16	43	54.26	-23	02	03.7	3.81	2.03	2.308	5336	13	21	52
	13	16	47	04.44	23	08	08.4	3.81	2.03	.310	1748	13	21	05
	14	16	50	15.17	23	13	59.5	3.80	2.02	.311	7852	13	20	20
	15	16	53	26.44	23	19	36.7	3.80	2.02	.313	3651	13	19	35
	16	16	56	38.23	23	25	00.0	3.80	2.02	.314	9145	13	18	51
	17	16	59	50.54	-23	30	09.2	3.80	2.02	2.316	4337	13	18	07
	18	17	03	03.36	23	35	04.3	3.79	2.02	.317	9229	13	17	23
	19	17	06	16.67	23	39	44.9	3.79	2.02	.319	3822	13	16	40
	20	17	09	30.46	23	44	11.1	3.79	2.02	.320	8120	13	15	58
	21	17	12	44.70	23	48	22.7	3.79	2.02	.322	2125	13	15	16
	22	17	15	59.40	-23	52	19.6	3.78	2.01	2.323	5843	13	14	34
	23	17	19	14.53	23	56	01.6	3.78	2.01	.324	9278	13	13	53
	24	17	22	30.07	23	59	28.5	3.78	2.01	.326	2433	13	13	12
	25	17	25	46.02	24	02	40.4	3.78	2.01	.327	5315	13	12	32
	26	17	29	02.35	24	05	37.1	3.78	2.01	.328	7929	13	11	52
	27	17	32	19.06	-24	08	18.4	3.77	2.01	2.330	0284	13	11	12
	28	17	35	36.13	24	10	44.3	3.77	2.01	.331	2383	13	10	33
	29	17	38	53.55	24	12	54.7	3.77	2.01	.332	4234	13	09	54
	30	17	42	11.30	24	14	49.4	3.77	2.01	.333	5845	13	09	15
	DEC. 1	17	45	29.39	24	16	28.5	3.77	2.00	.334	7221	13	08	37
	2	17	48	47.78	-24	17	51.9	3.76	2.00	2.335	8366	13	07	59
	3	17	52	06.47	24	18	59.4	3.76	2.00	.336	9286	13	07	21
	4	17	55	25.44	24	19	51.1	3.76	2.00	.337	9981	13	06	44
	5	17	58	44.68	24	20	26.8	3.76	2.00	.339	0454	13	06	07
	6	18	02	04.17	24	20	46.5	3.76	2.00	.340	0706	13	05	30
	7	18	05	23.90	-24	20	50.1	3.76	2.00	2.341	0736	13	04	53
	8	18	08	43.84	24	20	37.6	3.75	2.00	.342	0546	13	04	17
	9	18	12	04.00	24	20	08.9	3.75	2.00	.343	0136	13	03	40
	10	18	15	24.35	24	19	24.0	3.75	2.00	.343	9505	13	03	04
	11	18	18	44.87	24	18	22.8	3.75	2.00	.344	8653	13	02	28
	12	18	22	05.55	-24	17	05.3	3.75	2.00	2.345	7583	13	01	53
	13	18	25	26.38	24	15	31.5	3.75	1.99	.346	6292	13	01	17
	14	18	28	47.33	24	13	41.4	3.75	1.99	.347	4785	13	00	41
	15	18	32	08.39	24	11	34.9	3.74	1.99	.348	3062	13	00	06
	16	18	35	29.53	24	09	12.1	3.74	1.99	.349	1123	12	59	31
	17	18	38	50.75	-24	06	32.9	3.74	1.99	2.349	8972	12	58	55
	18	18	42	12.02	24	03	37.3	3.74	1.99	.350	6611	12	58	20
	19	18	45	33.32	24	00	25.4	3.74	1.99	.351	4042	12	57	45
	20	18	48	54.63	23	56	57.1	3.74	1.99	.352	1269	12	57	10
	21	18	52	15.94	23	53	12.6	3.74	1.99	.352	8295	12	56	34
	22	18	55	37.22	-23	49	11.7	3.74	1.99	2.353	5126	12	55	59
	23	18	58	58.47	23	44	54.6	3.74	1.99	.354	1766	12	55	24
	24	19	02	19.65	23	40	21.2	3.73	1.99	.354	8220	12	54	48
	25	19	05	40.76	23	35	31.6	3.73	1.99	.355	4494	12	54	13
	26	19	09	01.78	23	30	25.8	3.73	1.99	.356	0595	12	53	37
	27	19	12	22.70	-23	25	03.9	3.73	1.99	2.356	6530	12	53	02
	28	19	15	43.51	23	19	26.0	3.73	1.99	.357	2304	12	52	26
	29	19	19	04.19	23	13	32.0	3.73	1.98	.357	7924	12	51	50
	30	19	22	24.73	23	07	22.2	3.73	1.98	.358	3396	12	51	14
	31	19	25	45.11	23	00	56.6	3.73	1.98	.358	8722	12	50	38

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
		H	M	S	°	'	"	"	"	AU	H M S
JAN.	1	19	29	05.32	-22	54	15.2	3.73	1.98	2.359 3908	12 50 01
	2	19	32	25.35	22	47	18.2	3.73	1.98	.359 8954	12 49 24
	3	19	35	45.18	22	40	05.6	3.73	1.98	.360 3864	12 48 48
	4	19	39	04.81	22	32	37.5	3.72	1.98	.360 8638	12 48 11
	5	19	42	24.22	22	24	54.0	3.72	1.98	.361 3272	12 47 33
	6	19	45	43.40	-22	16	55.2	3.72	1.98	2.361 7771	12 46 56
	7	19	49	02.34	22	08	41.1	3.72	1.98	.362 2132	12 46 18
	8	19	52	21.04	22	00	11.9	3.72	1.98	.362 6355	12 45 40
	9	19	55	39.48	21	51	27.8	3.72	1.98	.363 0441	12 45 02
	10	19	58	57.64	21	42	28.7	3.72	1.98	.363 4391	12 44 23
	11	20	02	15.52	-21	33	14.9	3.72	1.98	2.363 8203	12 43 45
	12	20	05	33.11	21	23	46.5	3.72	1.98	.364 1880	12 43 06
	13	20	08	50.39	21	14	03.7	3.72	1.98	.364 5420	12 42 26
	14	20	12	07.36	21	04	06.5	3.72	1.98	.364 8825	12 41 46
	15	20	15	24.00	20	53	55.1	3.72	1.98	.365 2096	12 41 06
	16	20	18	40.29	-20	43	29.6	3.72	1.98	2.365 5234	12 40 26
	17	20	21	56.24	20	32	50.3	3.72	1.98	.365 8241	12 39 45
	18	20	25	11.82	20	21	57.2	3.72	1.98	.366 1119	12 39 04
	19	20	28	27.03	20	10	50.5	3.72	1.98	.366 3874	12 38 22
	20	20	31	41.87	19	59	30.4	3.72	1.98	.366 6506	12 37 40
	21	20	34	56.31	-19	47	57.1	3.72	1.98	2.366 9022	12 36 58
	22	20	38	10.36	19	36	10.6	3.72	1.98	.367 1427	12 36 15
	23	20	41	24.02	19	24	11.1	3.71	1.98	.367 3725	12 35 32
	24	20	44	37.27	19	11	58.9	3.71	1.98	.367 5921	12 34 49
	25	20	47	50.12	18	59	34.1	3.71	1.98	.367 8023	12 34 05
	26	20	51	02.55	-18	46	56.9	3.71	1.98	2.368 0033	12 33 21
	27	20	54	14.58	18	34	07.5	3.71	1.98	.368 1958	12 32 36
	28	20	57	26.18	18	21	06.1	3.71	1.98	.368 3803	12 31 51
	29	21	00	37.36	18	07	52.8	3.71	1.98	.368 5569	12 31 05
	30	21	03	48.11	17	54	27.8	3.71	1.98	.368 7260	12 30 19
FEB.	31	21	06	58.44	-17	40	51.3	3.71	1.98	2.368 8875	12 29 33
	1	21	10	08.34	17	27	03.6	3.71	1.98	.369 0417	12 28 46
	2	21	13	17.82	17	13	04.6	3.71	1.98	.369 1884	12 27 59
	3	21	16	26.88	16	58	54.7	3.71	1.98	.369 3275	12 27 11
	4	21	19	35.52	16	44	34.0	3.71	1.98	.369 4590	12 26 23
	5	21	22	43.73	-16	30	02.7	3.71	1.98	2.369 5827	12 25 34
	6	21	25	51.52	16	15	21.1	3.71	1.97	.369 6986	12 24 45
	7	21	28	58.88	16	00	29.2	3.71	1.97	.369 8065	12 23 56
	8	21	32	05.83	15	45	27.3	3.71	1.97	.369 9062	12 23 06
	9	21	35	12.35	15	30	15.7	3.71	1.97	.369 9978	12 22 16
	10	21	38	18.45	-15	14	54.5	3.71	1.97	2.370 0812	12 21 25
	11	21	41	24.13	14	59	23.8	3.71	1.97	.370 1561	12 20 34
	12	21	44	29.38	14	43	44.1	3.71	1.97	.370 2225	12 19 43
	13	21	47	34.21	14	27	55.4	3.71	1.97	.370 2805	12 18 51
	14	21	50	38.61	14	11	57.9	3.71	1.97	.370 3298	12 17 59
	15	21	53	42.58	-13	55	51.9	3.71	1.97	2.370 3706	12 17 06
	16	21	56	46.14	13	39	37.6	3.71	1.97	.370 4031	12 16 13
	17	21	59	49.27	13	23	15.2	3.71	1.97	.370 4273	12 15 19
	18	22	02	51.98	13	06	44.9	3.71	1.97	.370 4437	12 14 25
	19	22	05	54.28	12	50	06.9	3.71	1.97	.370 4525	12 13 31
	20	22	08	56.17	-12	33	21.4	3.71	1.97	2.370 4540	12 12 36
	21	22	11	57.65	12	16	28.7	3.71	1.97	.370 4488	12 11 40
	22	22	14	58.73	11	59	28.9	3.71	1.97	.370 4373	12 10 45
	23	22	17	59.41	11	42	22.3	3.71	1.97	.370 4197	12 09 49
	24	22	20	59.70	11	25	09.1	3.71	1.97	.370 3964	12 08 52
	25	22	23	59.60	-11	07	49.4	3.71	1.97	2.370 3678	12 07 56
	26	22	26	59.11	10	50	23.7	3.71	1.97	.370 3341	12 06 58
	27	22	29	58.24	10	32	51.9	3.71	1.97	.370 2955	12 06 01
	28	22	32	57.01	10	15	14.3	3.71	1.97	.370 2520	12 05 03
	29	22	35	55.42	9	57	31.1	3.71	1.97	.370 2034	12 04 05
MAR.	1	22	38	53.47	-9	39	42.5	3.71	1.97	2.370 1500	12 03 06

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	"			AU		H	M	S
MAR. 2	22	41	51.18	- 9	21	48.8	3.71	1.97	2.370	0912	12	02	07
3	22	44	48.55	9	03	49.9	3.71	1.97	.370	0271	12	01	08
4	22	47	45.60	8	45	46.3	3.71	1.97	.369	9573	12	00	08
5	22	50	42.32	8	27	38.1	3.71	1.97	.369	8816	11	59	08
6	22	53	38.73	8	09	25.5	3.71	1.97	.369	7998	11	58	08
7	22	56	34.84	- 7	51	08.6	3.71	1.97	2.369	7116	11	57	07
8	22	59	30.64	7	32	47.8	3.71	1.98	.369	6166	11	56	06
9	23	02	26.15	7	14	23.2	3.71	1.98	.369	5146	11	55	05
10	23	05	21.37	6	55	55.0	3.71	1.98	.369	4055	11	54	04
11	23	08	16.30	6	37	23.5	3.71	1.98	.369	2888	11	53	02
12	23	11	10.96	- 6	18	48.8	3.71	1.98	2.369	1642	11	52	00
13	23	14	05.35	6	00	11.2	3.71	1.98	.369	0314	11	50	58
14	23	16	59.46	5	41	30.9	3.71	1.98	.368	8905	11	49	55
15	23	19	53.32	5	22	48.0	3.71	1.98	.368	7412	11	48	53
16	23	22	46.93	5	04	02.8	3.71	1.98	.368	5833	11	47	50
17	23	25	40.29	- 4	45	15.5	3.71	1.98	2.368	4171	11	46	46
18	23	28	33.41	4	26	26.3	3.71	1.98	.368	2427	11	45	43
19	23	31	26.31	4	07	35.4	3.71	1.98	.368	0603	11	44	39
20	23	34	18.97	3	48	43.0	3.71	1.98	.367	8701	11	43	35
21	23	37	11.43	3	29	49.3	3.71	1.98	.367	6723	11	42	31
22	23	40	03.67	- 3	10	54.6	3.71	1.98	2.367	4672	11	41	27
23	23	42	55.70	2	51	59.0	3.71	1.98	.367	2551	11	40	22
24	23	45	47.54	2	33	02.7	3.72	1.98	.367	0358	11	39	17
25	23	48	39.20	2	14	05.9	3.72	1.98	.366	8099	11	38	12
26	23	51	30.68	1	55	08.8	3.72	1.98	.366	5771	11	37	07
27	23	54	21.99	- 1	36	11.6	3.72	1.98	2.366	3375	11	36	02
28	23	57	13.15	1	17	14.5	3.72	1.98	.366	0910	11	34	57
29	0	00	04.16	0	58	17.6	3.72	1.98	.365	8373	11	33	51
30	0	02	55.04	0	39	21.1	3.72	1.98	.365	5763	11	32	45
31	0	05	45.79	0	20	25.2	3.72	1.98	.365	3076	11	31	40
APR. 1	0	08	36.43	- 0	01	30.0	3.72	1.98	2.365	0310	11	30	34
2	0	11	26.97	+ 0	17	24.2	3.72	1.98	.364	7460	11	29	28
3	0	14	17.40	0	36	17.3	3.72	1.98	.364	4522	11	28	21
4	0	17	07.75	0	55	09.2	3.72	1.98	.364	1492	11	27	15
5	0	19	58.01	1	13	59.5	3.72	1.98	.363	8367	11	26	09
6	0	22	48.20	+ 1	32	48.1	3.72	1.98	2.363	5142	11	25	03
7	0	25	38.32	1	51	34.9	3.72	1.98	.363	1811	11	23	56
8	0	28	28.38	2	10	19.7	3.72	1.98	.362	8371	11	22	50
9	0	31	18.39	2	29	02.2	3.72	1.98	.362	4817	11	21	43
10	0	34	08.35	2	47	42.3	3.72	1.98	.362	1145	11	20	37
11	0	36	58.26	+ 3	06	19.8	3.72	1.98	2.361	7350	11	19	30
12	0	39	48.14	3	24	54.5	3.72	1.98	.361	3426	11	18	23
13	0	42	38.00	3	43	26.2	3.72	1.98	.360	9375	11	17	17
14	0	45	27.83	4	01	54.8	3.73	1.98	.360	5193	11	16	10
15	0	48	17.65	4	20	20.1	3.73	1.98	.360	0878	11	15	03
16	0	51	07.47	+ 4	38	41.8	3.73	1.98	2.359	6434	11	13	57
17	0	53	57.28	4	56	59.9	3.73	1.98	.359	1857	11	12	50
18	0	56	47.08	5	15	14.1	3.73	1.98	.358	7153	11	11	43
19	0	59	36.90	5	33	24.2	3.73	1.98	.358	2321	11	10	37
20	1	02	26.73	5	51	30.0	3.73	1.98	.357	7360	11	09	30
21	1	05	16.58	+ 6	09	31.5	3.73	1.99	2.357	2274	11	08	23
22	1	08	06.45	6	27	28.3	3.73	1.99	.356	7062	11	07	17
23	1	10	56.37	6	45	20.5	3.73	1.99	.356	1721	11	06	10
24	1	13	46.32	7	03	07.7	3.73	1.99	.355	6254	11	05	04
25	1	16	36.33	7	20	49.9	3.73	1.99	.355	0656	11	03	57
26	1	19	26.41	+ 7	38	26.9	3.73	1.99	2.354	4926	11	02	51
27	1	22	16.55	7	55	58.6	3.74	1.99	.353	9060	11	01	45
28	1	25	06.77	8	13	24.8	3.74	1.99	.353	3057	11	00	38
29	1	27	57.08	8	30	45.3	3.74	1.99	.352	6909	10	59	32
30	1	30	47.48	8	48	00.1	3.74	1.99	.352	0615	10	58	26
MAY 1	1	33	37.99	+ 9	05	09.0	3.74	1.99	2.351	4168	10	57	20

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	Q	°	'			AU		H	M	S
MAY	2	1	36	28.59	+	9	22	11.7	3.74	1.99	2.350	7565	10 56 14
	3	1	39	19.30		9	39	08.3	3.74	1.99	.350	0798	10 55 08
	4	1	42	10.13		9	55	58.4	3.74	1.99	.349	3867	10 54 03
	5	1	45	01.07		10	12	42.0	3.74	1.99	.348	6762	10 52 57
	6	1	47	52.14		10	29	18.9	3.75	1.99	.347	9478	10 51 52
	7	1	50	43.34	+	10	45	49.0	3.75	1.99	2.347	2008	10 50 47
	8	1	53	34.66		11	02	12.0	3.75	1.99	.346	4348	10 49 42
	9	1	56	26.12		11	18	27.9	3.75	2.00	.345	6491	10 48 37
	10	1	59	17.72		11	34	36.4	3.75	2.00	.344	8432	10 47 32
	11	2	02	09.47		11	50	37.5	3.75	2.00	.344	0166	10 46 27
	12	2	05	01.35	+	12	06	31.0	3.75	2.00	2.343	1691	10 45 23
	13	2	07	53.39		12	22	16.7	3.75	2.00	.342	3003	10 44 18
	14	2	10	45.57		12	37	54.5	3.76	2.00	.341	4101	10 43 14
	15	2	13	37.90		12	53	24.3	3.76	2.00	.340	4984	10 42 10
	16	2	16	30.37		13	08	45.8	3.76	2.00	.339	5654	10 41 06
	17	2	19	23.00	+	13	23	59.0	3.76	2.00	2.338	6109	10 40 02
	18	2	22	15.77		13	39	03.6	3.76	2.00	.337	6352	10 38 58
	19	2	25	08.69		13	53	59.6	3.76	2.00	.336	6381	10 37 55
	20	2	28	01.77		14	08	46.8	3.77	2.00	.335	6197	10 36 51
	21	2	30	55.01		14	23	25.1	3.77	2.00	.334	5799	10 35 48
	22	2	33	48.41	+	14	37	54.4	3.77	2.01	2.333	5184	10 34 45
	23	2	36	41.98		14	52	14.5	3.77	2.01	.332	4350	10 33 42
	24	2	39	35.72		15	06	25.3	3.77	2.01	.331	3296	10 32 40
	25	2	42	29.64		15	20	26.8	3.77	2.01	.330	2018	10 31 37
	26	2	45	23.74		15	34	18.8	3.78	2.01	.329	0514	10 30 35
	27	2	48	18.01	+	15	48	01.2	3.78	2.01	2.327	8775	10 29 33
	28	2	51	12.46		16	01	34.0	3.78	2.01	.326	6803	10 28 31
	29	2	54	07.09		16	14	56.9	3.78	2.01	.325	4588	10 27 29
	30	2	57	01.90		16	28	09.9	3.78	2.01	.324	2128	10 26 27
	31	2	59	56.90		16	41	12.9	3.79	2.01	.322	9416	10 25 26
JUNE	1	3	02	52.07	+	16	54	05.7	3.79	2.02	2.321	6447	10 24 24
	2	3	05	47.42		17	06	48.3	3.79	2.02	.320	3215	10 23 23
	3	3	08	42.95		17	19	20.5	3.79	2.02	.318	9713	10 22 22
	4	3	11	38.65		17	31	42.2	3.79	2.02	.317	5936	10 21 22
	5	3	14	34.54		17	43	53.4	3.80	2.02	.316	1875	10 20 21
	6	3	17	30.59	+	17	55	53.8	3.80	2.02	2.314	7524	10 19 21
	7	3	20	26.82		18	07	43.5	3.80	2.02	.313	2878	10 18 21
	8	3	23	23.22		18	19	22.3	3.80	2.02	.311	7931	10 17 21
	9	3	26	19.79		18	30	50.0	3.81	2.03	.310	2678	10 16 21
	10	3	29	16.51		18	42	06.7	3.81	2.03	.308	7115	10 15 21
	11	3	32	13.39	+	18	53	12.3	3.81	2.03	2.307	1240	10 14 21
	12	3	35	10.42		19	04	06.5	3.81	2.03	.305	5051	10 13 22
	13	3	38	07.58		19	14	49.3	3.82	2.03	.303	8548	10 12 23
	14	3	41	04.88		19	25	20.7	3.82	2.03	.302	1730	10 11 23
	15	3	44	02.30		19	35	40.4	3.82	2.03	.300	4598	10 10 24
	16	3	46	59.84	+	19	45	48.5	3.83	2.04	2.298	7153	10 09 26
	17	3	49	57.51		19	55	44.8	3.83	2.04	.296	9393	10 08 27
	18	3	52	55.29		20	05	29.3	3.83	2.04	.295	1318	10 07 28
	19	3	55	53.19		20	15	01.9	3.83	2.04	.293	2928	10 06 29
	20	3	58	51.20		20	24	22.6	3.84	2.04	.291	4219	10 05 31
	21	4	01	49.33	+	20	33	31.3	3.84	2.04	2.289	5190	10 04 33
	22	4	04	47.55		20	42	27.9	3.84	2.05	.287	5838	10 03 34
	23	4	07	45.88		20	51	12.5	3.85	2.05	.285	6159	10 02 36
	24	4	10	44.30		20	59	44.8	3.85	2.05	.283	6152	10 01 38
	25	4	13	42.82		21	08	05.0	3.85	2.05	.281	5810	10 00 40
	26	4	16	41.41	+	21	16	13.0	3.86	2.05	2.279	5130	9 59 42
	27	4	19	40.09		21	24	08.6	3.86	2.05	.277	4107	9 58 45
	28	4	22	38.84		21	31	51.9	3.87	2.06	.275	2737	9 57 47
	29	4	25	37.65		21	39	22.9	3.87	2.06	.273	1013	9 56 49
	30	4	28	36.52		21	46	41.3	3.87	2.06	.270	8930	9 55 51
JULY	1	4	31	35.45	+	21	53	47.3	3.88	2.06	2.268	6481	9 54 54

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	O	'	"			AU		H	M	S
JULY	2	4	34	34.41	+22	00	40.8	3.88	2.06	2.266	3660	9	53	56
	3	4	37	33.42	22	07	21.8	3.88	2.07	.264	0461	9	52	59
	4	4	40	32.46	22	13	50.1	3.89	2.07	.261	6877	9	52	01
	5	4	43	31.52	22	20	05.8	3.89	2.07	.259	2902	9	51	04
	6	4	46	30.60	22	26	08.9	3.90	2.07	.256	8530	9	50	07
	7	4	49	29.68	+22	31	59.4	3.90	2.08	2.254	3755	9	49	09
	8	4	52	28.75	22	37	37.1	3.91	2.08	.251	8573	9	48	12
	9	4	55	27.80	22	43	02.2	3.91	2.08	.249	2982	9	47	14
	10	4	58	26.82	22	48	14.5	3.91	2.08	.246	6979	9	46	17
	11	5	01	25.79	22	53	14.1	3.92	2.09	.244	0563	9	45	19
	12	5	04	24.70	+22	58	01.0	3.92	2.09	2.241	3734	9	44	21
	13	5	07	23.53	23	02	35.0	3.93	2.09	.238	6492	9	43	24
	14	5	10	22.29	23	06	56.3	3.93	2.09	.235	8839	9	42	26
	15	5	13	20.96	23	11	04.8	3.94	2.10	.233	0775	9	41	28
	16	5	16	19.54	23	15	00.5	3.94	2.10	.230	2299	9	40	30
	17	5	19	18.01	+23	18	43.4	3.95	2.10	2.227	3412	9	39	32
	18	5	22	16.37	23	22	13.7	3.95	2.10	.224	4111	9	38	34
	19	5	25	14.62	23	25	31.1	3.96	2.11	.221	4395	9	37	35
	20	5	28	12.74	23	28	36.0	3.96	2.11	.218	4264	9	36	37
	21	5	31	10.72	23	31	28.1	3.97	2.11	.215	3715	9	35	38
	22	5	34	08.56	+23	34	07.6	3.98	2.12	2.212	2744	9	34	40
	23	5	37	06.25	23	36	34.5	3.98	2.12	.209	1349	9	33	41
	24	5	40	03.77	23	38	48.9	3.99	2.12	.205	9527	9	32	42
	25	5	43	01.13	23	40	50.8	3.99	2.12	.202	7276	9	31	42
	26	5	45	58.30	23	42	40.1	4.00	2.13	.199	4589	9	30	43
	27	5	48	55.28	+23	44	17.0	4.00	2.13	2.196	1463	9	29	43
	28	5	51	52.07	23	45	41.4	4.01	2.13	.192	7890	9	28	44
	29	5	54	48.65	23	46	53.5	4.02	2.14	.189	3869	9	27	44
	30	5	57	45.02	23	47	53.2	4.02	2.14	.185	9393	9	26	43
	31	6	00	41.16	23	48	40.7	4.03	2.14	.182	4454	9	25	43
AUG.	1	6	03	37.07	+23	49	15.9	4.04	2.15	2.178	9047	9	24	42
	2	6	06	32.74	23	49	38.9	4.04	2.15	.175	3168	9	23	41
	3	6	09	28.16	23	49	49.8	4.05	2.16	.171	6810	9	22	40
	4	6	12	23.32	23	49	48.6	4.06	2.16	.167	9967	9	21	39
	5	6	15	18.20	23	49	35.5	4.06	2.16	.164	2637	9	20	37
	6	6	18	12.79	+23	49	10.4	4.07	2.17	2.160	4818	9	19	35
	7	6	21	07.08	23	48	33.5	4.08	2.17	.156	6504	9	18	32
	8	6	24	01.04	23	47	44.8	4.08	2.17	.152	7698	9	17	30
	9	6	26	54.68	23	46	44.3	4.09	2.18	.148	8399	9	16	27
	10	6	29	47.97	23	45	32.2	4.10	2.18	.144	8606	9	15	23
	11	6	32	40.92	+23	44	08.6	4.11	2.19	2.140	8323	9	14	20
	12	6	35	33.50	23	42	33.4	4.12	2.19	.136	7550	9	13	16
	13	6	38	25.72	23	40	46.8	4.12	2.19	.132	6289	9	12	11
	14	6	41	17.57	23	38	48.9	4.13	2.20	.128	4540	9	11	06
	15	6	44	09.04	23	36	39.7	4.14	2.20	.124	2304	9	10	01
	16	6	47	00.13	+23	34	19.5	4.15	2.21	2.119	9582	9	08	56
	17	6	49	50.82	23	31	48.2	4.16	2.21	.115	6371	9	07	50
	18	6	52	41.11	23	29	05.9	4.17	2.22	.111	2673	9	06	43
	19	6	55	30.99	23	26	12.9	4.17	2.22	.106	8485	9	05	37
	20	6	58	20.46	23	23	09.1	4.18	2.23	.102	3808	9	04	29
	21	7	01	09.51	+23	19	54.8	4.19	2.23	2.097	8638	9	03	22
	22	7	03	58.13	23	16	29.9	4.20	2.24	.093	2973	9	02	14
	23	7	06	46.32	23	12	54.5	4.21	2.24	.088	6813	9	01	05
	24	7	09	34.07	23	09	08.9	4.22	2.25	.084	0153	8	59	56
	25	7	12	21.37	23	05	13.1	4.23	2.25	.079	2990	8	58	47
	26	7	15	08.23	+23	01	07.1	4.24	2.26	2.074	5318	8	57	37
	27	7	17	54.63	22	56	51.1	4.25	2.26	.069	7135	8	56	27
	28	7	20	40.57	22	52	25.2	4.26	2.27	.064	8435	8	55	16
	29	7	23	26.05	22	47	49.5	4.27	2.27	.059	9215	8	54	05
	30	7	26	11.07	22	43	04.2	4.28	2.28	.054	9467	8	52	53
	31	7	28	55.60	+22	38	09.3	4.29	2.28	2.049	9189	8	51	41

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	O	'	"			AU		H	M	S
SEPT. 1	7	31	39.65	+22	33	05.0	4.30	2.29	2.044	8377	8	50	29
2	7	34	23.20	22	27	51.5	4.31	2.29	.039	7028	8	49	15
3	7	37	06.24	22	22	28.7	4.32	2.30	.034	5140	8	48	02
4	7	39	48.77	22	16	57.0	4.33	2.31	.029	2713	8	46	48
5	7	42	30.77	22	11	16.4	4.34	2.31	.023	9746	8	45	33
6	7	45	12.24	+22	05	26.9	4.36	2.32	2.018	6240	8	44	18
7	7	47	53.17	21	59	28.8	4.37	2.32	.013	2196	8	43	02
8	7	50	33.56	21	53	22.2	4.38	2.33	.007	7619	8	41	46
9	7	53	13.40	21	47	07.2	4.39	2.34	2.002	2509	8	40	29
10	7	55	52.68	21	40	43.9	4.40	2.34	1.996	6871	8	39	12
11	7	58	31.41	+21	34	12.5	4.42	2.35	1.991	0706	8	37	54
12	8	01	09.59	21	27	33.1	4.43	2.36	.985	4017	8	36	35
13	8	03	47.20	21	20	45.9	4.44	2.36	.979	6807	8	35	16
14	8	06	24.24	21	13	50.9	4.46	2.37	.973	9077	8	33	56
15	8	09	00.72	21	06	48.4	4.47	2.38	.968	0828	8	32	36
16	8	11	36.62	+20	59	38.4	4.48	2.39	1.962	2061	8	31	15
17	8	14	11.95	20	52	21.2	4.50	2.39	.956	2778	8	29	54
18	8	16	46.70	20	44	56.8	4.51	2.40	.950	2979	8	28	32
19	8	19	20.88	20	37	25.4	4.52	2.41	.944	2664	8	27	10
20	8	21	54.47	20	29	47.1	4.54	2.41	.938	1834	8	25	46
21	8	24	27.48	+20	22	02.1	4.55	2.42	1.932	0487	8	24	23
22	8	26	59.91	20	14	10.4	4.57	2.43	.925	8623	8	22	59
23	8	29	31.76	20	06	12.2	4.58	2.44	.919	6238	8	21	34
24	8	32	03.03	19	58	07.6	4.60	2.45	.913	3332	8	20	08
25	8	34	33.71	19	49	56.8	4.61	2.45	.906	9900	8	18	42
26	8	37	03.82	+19	41	39.9	4.63	2.46	1.900	5939	8	17	16
27	8	39	33.33	19	33	17.0	4.64	2.47	.894	1447	8	15	49
28	8	42	02.26	19	24	48.3	4.66	2.48	.887	6421	8	14	21
29	8	44	30.58	19	16	14.1	4.67	2.49	.881	0859	8	12	53
30	8	46	58.30	19	07	34.3	4.69	2.50	.874	4762	8	11	24
OCT. 1	8	49	25.41	+18	58	49.2	4.71	2.51	1.867	8127	8	09	54
2	8	51	51.91	18	49	58.9	4.73	2.51	.861	0957	8	08	24
3	8	54	17.78	18	41	03.7	4.74	2.52	.854	3253	8	06	53
4	8	56	43.02	18	32	03.5	4.76	2.53	.847	5018	8	05	22
5	8	59	07.64	18	22	58.6	4.78	2.54	.840	6255	8	03	50
6	9	01	31.62	+18	13	49.1	4.80	2.55	1.833	6969	8	02	17
7	9	03	54.97	18	04	35.2	4.81	2.56	.826	7165	8	00	44
8	9	06	17.68	17	55	17.0	4.83	2.57	.819	6847	7	59	10
9	9	08	39.76	17	45	54.7	4.85	2.58	.812	6020	7	57	35
10	9	11	01.19	17	36	28.4	4.87	2.59	.805	4691	7	56	00
11	9	13	21.98	+17	26	58.3	4.89	2.60	1.798	2862	7	54	24
12	9	15	42.13	17	17	24.6	4.91	2.61	.791	0540	7	52	47
13	9	18	01.63	17	07	47.4	4.93	2.62	.783	7727	7	51	10
14	9	20	20.48	16	58	06.8	4.95	2.63	.776	4428	7	49	32
15	9	22	38.69	16	48	23.0	4.97	2.65	.769	0647	7	47	54
16	9	24	56.25	+16	38	36.1	4.99	2.66	1.761	6389	7	46	15
17	9	27	13.15	16	28	46.4	5.01	2.67	.754	1655	7	44	35
18	9	29	29.41	16	18	53.8	5.03	2.68	.746	6448	7	42	55
19	9	31	45.02	16	08	58.7	5.06	2.69	.739	0774	7	41	14
20	9	33	59.98	15	59	01.0	5.08	2.70	.731	4632	7	39	32
21	9	36	14.29	+15	49	00.9	5.10	2.71	1.723	8023	7	37	50
22	9	38	27.95	15	38	58.6	5.12	2.73	.716	0949	7	36	07
23	9	40	40.97	15	28	54.2	5.15	2.74	.708	3407	7	34	23
24	9	42	53.34	15	18	47.8	5.17	2.75	.700	5401	7	32	39
25	9	45	05.05	15	08	39.7	5.20	2.76	.692	6927	7	30	54
26	9	47	16.11	+14	58	29.9	5.22	2.78	1.684	7986	7	29	08
27	9	49	26.50	14	48	18.7	5.24	2.79	.676	8577	7	27	22
28	9	51	36.22	14	38	06.2	5.27	2.80	.668	8706	7	25	35
29	9	53	45.26	14	27	52.6	5.29	2.82	.660	8374	7	23	48
30	9	55	53.61	14	17	38.0	5.32	2.83	.652	7584	7	21	59
31	9	58	01.27	+14	07	22.6	5.35	2.85	1.644	6339	7	20	10

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
		H	M	S	O	'	"	"	"	AU	H M S
NOV.	1	10 00	08.24		+13 57	06.6		5.37	2.86	1.636 4650	7 18 21
	2	10 02	14.49		13 46	50.2		5.40	2.87	.628 2517	7 16 30
	3	10 04	20.04		13 36	33.4		5.43	2.89	.619 9951	7 14 39
	4	10 06	24.87		13 26	16.5		5.46	2.90	.611 6959	7 12 48
	5	10 08	28.99		13 15	59.6		5.48	2.92	.603 3551	7 10 55
	6	10 10	32.38		+13 05	43.0		5.51	2.93	1.594 9732	7 09 02
	7	10 12	35.04		12 55	26.7		5.54	2.95	.586 5512	7 07 08
	8	10 14	36.97		12 45	10.9		5.57	2.97	.578 0900	7 05 13
	9	10 16	38.15		12 34	55.8		5.60	2.98	.569 5903	7 03 18
	10	10 18	38.59		12 24	41.6		5.63	3.00	.561 0529	7 01 22
	11	10 20	38.28		+12 14	28.4		5.66	3.01	1.552 4787	6 59 25
	12	10 22	37.22		12 04	16.4		5.70	3.03	.543 8684	6 57 27
	13	10 24	35.39		11 54	05.8		5.73	3.05	.535 2230	6 55 28
	14	10 26	32.80		11 43	56.6		5.76	3.07	.526 5430	6 53 29
	15	10 28	29.43		11 33	49.1		5.79	3.08	.517 8291	6 51 29
	16	10 30	25.30		+11 23	43.3		5.83	3.10	1.509 0823	6 49 29
	17	10 32	20.38		11 13	39.5		5.86	3.12	.500 3030	6 47 27
	18	10 34	14.68		11 03	37.7		5.90	3.14	.491 4916	6 45 25
	19	10 36	08.20		10 53	38.2		5.93	3.16	.482 6489	6 43 22
	20	10 38	00.93		10 43	41.0		5.97	3.18	.473 7751	6 41 18
	21	10 39	52.86		+10 33	46.3		6.00	3.19	1.464 8704	6 39 13
	22	10 41	43.99		10 23	54.4		6.04	3.21	.455 9356	6 37 08
	23	10 43	34.29		10 14	05.3		6.08	3.23	.446 9708	6 35 01
	24	10 45	23.75		10 04	19.3		6.12	3.25	.437 9764	6 32 54
	25	10 47	12.36		9 54	36.6		6.15	3.28	.428 9532	6 30 46
	26	10 49	00.11		+ 9 44	57.4		6.19	3.30	1.419 9019	6 28 37
	27	10 50	46.99		9 35	21.8		6.23	3.32	.410 8232	6 26 28
	28	10 52	32.96		9 25	50.1		6.27	3.34	.401 7180	6 24 17
	29	10 54	18.03		9 16	22.4		6.31	3.36	.392 5875	6 22 05
	30	10 56	02.18		9 06	59.0		6.36	3.38	.383 4326	6 19 53
DEC.	1	10 57	45.40		+ 8 57	39.9		6.40	3.41	1.374 2547	6 17 40
	2	10 59	27.66		8 48	25.5		6.44	3.43	.365 0549	6 15 25
	3	11 01	08.96		8 39	15.9		6.49	3.45	.355 8344	6 13 10
	4	11 02	49.28		8 30	11.3		6.53	3.48	.346 5949	6 10 54
	5	11 04	28.61		8 21	11.9		6.58	3.50	.337 3374	6 08 36
	6	11 06	06.92		+ 8 12	17.9		6.62	3.52	1.328 0635	6 06 18
	7	11 07	44.20		8 03	29.5		6.67	3.55	.318 7745	6 03 59
	8	11 09	20.44		7 54	47.0		6.72	3.57	.309 4717	6 01 38
	9	11 10	55.61		7 46	10.4		6.76	3.60	.300 1564	5 59 17
	10	11 12	29.71		7 37	40.0		6.81	3.63	.290 8304	5 56 55
	11	11 14	02.71		+ 7 29	16.0		6.86	3.65	1.281 4948	5 54 31
	12	11 15	34.60		7 20	58.5		6.91	3.68	.272 1511	5 52 06
	13	11 17	05.37		7 12	47.8		6.96	3.71	.262 8004	5 49 40
	14	11 18	34.99		7 04	44.0		7.02	3.73	.253 4444	5 47 13
	15	11 20	03.45		6 56	47.2		7.07	3.76	.244 0842	5 44 45
	16	11 21	30.74		+ 6 48	57.7		7.12	3.79	1.234 7209	5 42 16
	17	11 22	56.84		6 41	15.7		7.18	3.82	.225 3559	5 39 46
	18	11 24	21.73		6 33	41.3		7.23	3.85	.215 9901	5 37 14
	19	11 25	45.38		6 26	14.7		7.29	3.88	.206 6246	5 34 41
	20	11 27	07.77		6 18	56.2		7.35	3.91	.197 2605	5 32 07
	21	11 28	28.88		+ 6 11	46.0		7.40	3.94	1.187 8988	5 29 31
	22	11 29	48.67		6 04	44.3		7.46	3.97	.178 5408	5 26 55
	23	11 31	07.11		5 57	51.3		7.52	4.00	.169 1878	5 24 16
	24	11 32	24.17		5 51	07.4		7.58	4.04	.159 8410	5 21 37
	25	11 33	39.82		5 44	32.7		7.64	4.07	.150 5023	5 18 56
	26	11 34	54.04		+ 5 38	07.5		7.71	4.10	1.141 1732	5 16 14
	27	11 36	06.78		5 31	52.1		7.77	4.13	.131 8556	5 13 30
	28	11 37	18.02		5 25	46.7		7.83	4.17	.122 5517	5 10 44
	29	11 38	27.72		5 19	51.5		7.90	4.20	.113 2633	5 07 58
	30	11 39	35.85		5 14	06.8		7.97	4.24	.103 9926	5 05 09
	31	11 40	42.38		+ 5 08	32.9		8.03	4.27	1.094 7417	5 02 19

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	"	"	"	AU		H	M	S
JAN.	1	11 41	47.26	+ 5 03	10.0		8.10	4.31	1.085	5130	4 59	27	
	2	11 42	50.48	4 57	58.3		8.17	4.35	.076	3088	4 56	34	
	3	11 43	51.98	4 52	58.1		8.24	4.39	.067	1314	4 53	39	
	4	11 44	51.74	4 48	09.7		8.31	4.42	.057	9832	4 50	42	
	5	11 45	49.71	4 43	33.3		8.38	4.46	.048	8667	4 47	44	
	6	11 46	45.87	+ 4 39	09.2		8.46	4.50	1.039	7843	4 44	43	
	7	11 47	40.18	4 34	57.5		8.53	4.54	.030	7384	4 41	41	
	8	11 48	32.60	4 30	58.5		8.61	4.58	.021	7317	4 38	37	
	9	11 49	23.09	4 27	12.5		8.68	4.62	.012	7665	4 35	31	
	10	11 50	11.64	4 23	39.6		8.76	4.66	1.003	8454	4 32	23	
	11	11 50	58.19	+ 4 20	20.0		8.84	4.70	0.994	9708	4 29	13	
	12	11 51	42.71	4 17	14.0		8.92	4.75	.986	1454	4 26	01	
	13	11 52	25.18	4 14	21.7		9.00	4.79	.977	3714	4 22	47	
	14	11 53	05.55	4 11	43.5		9.08	4.83	.968	6514	4 19	31	
	15	11 53	43.79	4 09	19.4		9.16	4.88	.959	9876	4 16	13	
	16	11 54	19.85	+ 4 07	09.6		9.24	4.92	0.951	3824	4 12	52	
	17	11 54	53.70	4 05	14.5		9.33	4.96	.942	8383	4 09	29	
	18	11 55	25.28	4 03	34.3		9.41	5.01	.934	3576	4 06	05	
	19	11 55	54.56	4 02	09.3		9.50	5.05	.925	9427	4 02	37	
	20	11 56	21.48	4 00	59.6		9.58	5.10	.917	5967	3 59	08	
	21	11 56	46.00	+ 4 00	05.5		9.67	5.15	0.909	3223	3 55	36	
	22	11 57	08.07	3 59	27.2		9.76	5.19	.901	1225	3 52	02	
	23	11 57	27.65	3 59	05.1		9.85	5.24	.893	0006	3 48	25	
	24	11 57	44.69	3 58	59.2		9.94	5.29	.884	9600	3 44	45	
	25	11 57	59.16	3 59	09.8		10.03	5.34	.877	0042	3 41	04	
	26	11 58	10.99	+ 3 59	37.1		10.12	5.38	0.869	1369	3 37	19	
	27	11 58	20.16	4 00	21.2		10.21	5.43	.861	3617	3 33	32	
	28	11 58	26.63	4 01	22.4		10.30	5.48	.853	6826	3 29	42	
	29	11 58	30.35	4 02	40.8		10.39	5.53	.846	1035	3 25	49	
	30	11 58	31.30	4 04	16.4		10.49	5.58	.838	6282	3 21	54	
FEB.	31	11 58	29.43	+ 4 06	09.4		10.58	5.63	0.831	2608	3 17	56	
	1	11 58	24.72	4 08	19.8		10.67	5.68	.824	0053	3 13	55	
	2	11 58	17.15	4 10	47.7		10.77	5.73	.816	8657	3 09	51	
	3	11 58	06.68	4 13	33.2		10.86	5.78	.809	8464	3 05	44	
	4	11 57	53.30	4 16	36.1		10.95	5.83	.802	9512	3 01	35	
	5	11 57	36.99	+ 4 19	56.4		11.05	5.88	0.796	1844	2 57	22	
	6	11 57	17.74	4 23	34.0		11.14	5.93	.789	5499	2 53	07	
	7	11 56	55.56	4 27	28.8		11.23	5.98	.783	0519	2 48	48	
	8	11 56	30.42	4 31	40.7		11.32	6.03	.776	6941	2 44	27	
	9	11 56	02.35	4 36	09.4		11.41	6.07	.770	4808	2 40	03	
	10	11 55	31.34	+ 4 40	54.6		11.50	6.12	0.764	4154	2 35	36	
	11	11 54	57.40	4 45	56.2		11.59	6.17	.758	5019	2 31	06	
	12	11 54	20.55	4 51	13.8		11.68	6.22	.752	7438	2 26	33	
	13	11 53	40.80	4 56	47.2		11.77	6.26	.747	1447	2 21	58	
	14	11 52	58.17	5 02	35.9		11.86	6.31	.741	7082	2 17	19	
	15	11 52	12.68	+ 5 08	39.7		11.94	6.35	0.736	4378	2 12	38	
	16	11 51	24.36	5 14	58.1		12.02	6.40	.731	3370	2 07	53	
	17	11 50	33.24	5 21	30.7		12.11	6.44	.726	4095	2 03	06	
	18	11 49	39.36	5 28	17.0		12.19	6.49	.721	6589	1 58	17	
	19	11 48	42.76	5 35	16.6		12.26	6.53	.717	0889	1 53	24	
	20	11 47	43.50	+ 5 42	28.7		12.34	6.57	0.712	7034	1 48	29	
	21	11 46	41.65	5 49	52.9		12.41	6.61	.708	5060	1 43	32	
	22	11 45	37.25	5 57	28.3		12.48	6.64	.704	5006	1 38	32	
	23	11 44	30.41	6 05	14.4		12.55	6.68	.700	6907	1 33	29	
	24	11 43	21.19	6 13	10.3		12.62	6.71	.697	0798	1 28	24	
	25	11 42	09.69	+ 6 21	15.2		12.68	6.75	0.693	6714	1 23	17	
	26	11 40	56.03	6 29	28.3		12.74	6.78	.690	4687	1 18	08	
	27	11 39	40.29	6 37	48.6		12.79	6.81	.687	4747	1 12	57	
	28	11 38	22.61	6 46	15.2		12.84	6.84	.684	6923	1 07	44	
MAR.	1	11 37	03.11	6 54	47.0		12.89	6.86	.682	1240	1 02	29	
	2	11 35	41.93	+ 7 03	23.1		12.94	6.88	0.679	7722	0 57	12	

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.			
		H	M	S	°	'	"			"	"	AU	H	M	S
MAR.	3	11	34	19.20	+	7	12	02.4	12.98	6.91	0.677	6390	0	51	54
	4	11	32	55.07		7	20	43.8	13.01	6.93	.675	7265	0	46	34
	5	11	31	29.70		7	29	26.1	13.05	6.94	.674	0358	0	41	13
	6	11	30	03.26		7	38	08.3	13.08	6.96	.672	5685	0	35	52
	7	11	28	35.90		7	46	49.2	13.10	6.97	.671	3252	0	30	29
	8	11	27	07.79	+	7	55	27.6	13.12	6.98	0.670	3064	0	25	06
	9	11	25	39.12		8	04	02.5	13.13	6.99	.669	5123	0	19	41
	10	11	24	10.04		8	12	32.7	13.15	7.00	.668	9427	0	14	17
	11	11	22	40.73		8	20	57.1	13.15	7.00	.668	5969	0	08	52
	12	11	21	11.35		8	29	14.8	13.16	7.00	.668	4744	0	03	28
	13	11	19	42.08	+	8	37	24.7	13.15	7.00	0.668	5739	23	52	39
	14	11	18	13.08		8	45	25.9	13.15	7.00	.668	8940	23	47	15
	15	11	16	44.50		8	53	17.4	13.14	6.99	.669	4335	23	41	52
	16	11	15	16.51		9	00	58.4	13.12	6.98	.670	1904	23	36	29
	17	11	13	49.27		9	08	28.0	13.10	6.97	.671	1631	23	31	07
	18	11	12	22.91	+	9	15	45.5	13.08	6.96	0.672	3497	23	25	47
	19	11	10	57.60		9	22	50.1	13.05	6.95	.673	7481	23	20	27
	20	11	09	33.49		9	29	41.1	13.02	6.93	.675	3563	23	15	09
	21	11	08	10.72		9	36	17.8	12.99	6.91	.677	1720	23	09	52
	22	11	06	49.42		9	42	39.6	12.95	6.89	.679	1928	23	04	37
	23	11	05	29.73	+	9	48	45.9	12.91	6.87	0.681	4160	22	59	24
	24	11	04	11.79		9	54	36.2	12.86	6.84	.683	8390	22	54	12
	25	11	02	55.72		10	00	10.0	12.81	6.82	.686	4589	22	49	02
	26	11	01	41.64		10	05	26.8	12.76	6.79	.689	2724	22	43	55
27	11	00	29.67		10	10	26.3	12.70	6.76	.692	2762	22	38	49	
	28	10	59	19.91	+10	15	08.1	12.64	6.73	0.695	4669	22	33	46	
	29	10	58	12.47		10	19	31.8	12.58	6.70	.698	8410	22	28	46
	30	10	57	07.44		10	23	37.2	12.52	6.66	.702	3945	22	23	47
	31	10	56	04.91		10	27	24.1	12.45	6.63	.706	1239	22	18	52
	APR. 1	10	55	04.96		10	30	52.3	12.39	6.59	.710	0248	22	13	59
	2	10	54	07.67	+10	34	01.5	12.31	6.55	0.714	0931	22	09	08	
	3	10	53	13.10		10	36	51.8	12.24	6.52	.718	3246	22	04	21
	4	10	52	21.33		10	39	22.9	12.17	6.48	.722	7147	21	59	36
	5	10	51	32.39		10	41	35.0	12.09	6.44	.727	2589	21	54	54
	6	10	50	46.35		10	43	28.0	12.01	6.39	.731	9525	21	50	15
	7	10	50	03.22	+10	45	01.9	11.94	6.35	0.736	7908	21	45	39	
	8	10	49	23.03		10	46	16.9	11.86	6.31	.741	7692	21	41	06
9	10	48	45.80		10	47	13.1	11.77	6.27	.746	8828	21	36	35	
10	10	48	11.54		10	47	50.7	11.69	6.22	.752	1272	21	32	08	
11	10	47	40.25		10	48	09.8	11.61	6.18	.757	4976	21	27	44	
	12	10	47	11.94	+10	48	10.8	11.53	6.13	0.762	9900	21	23	22	
	13	10	46	46.58		10	47	53.8	11.44	6.09	.768	5999	21	19	04
	14	10	46	24.17		10	47	19.1	11.36	6.04	.774	3231	21	14	48
	15	10	46	04.70		10	46	26.8	11.27	6.00	.780	1560	21	10	36
	16	10	45	48.15		10	45	17.4	11.19	5.95	.786	0946	21	06	26
	17	10	45	34.49	+10	43	51.0	11.10	5.91	0.792	1351	21	02	19	
	18	10	45	23.72		10	42	07.9	11.02	5.86	.798	2743	20	58	15
	19	10	45	15.79		10	40	08.4	10.93	5.82	.804	5087	20	54	13
	20	10	45	10.70		10	37	52.6	10.85	5.77	.810	8348	20	50	15
	21	10	45	08.40		10	35	21.0	10.76	5.73	.817	2491	20	46	19
	22	10	45	08.87	*10	32	33.8	10.68	5.68	0.823	7486	20	42	26	
	23	10	45	12.08		10	29	31.1	10.59	5.64	.830	3298	20	38	35
24	10	45	18.00		10	26	13.3	10.51	5.59	.836	9897	20	34	48	
25	10	45	26.59		10	22	40.6	10.42	5.55	.843	7250	20	31	03	
26	10	45	37.82		10	18	53.3	10.34	5.50	.850	5325	20	27	20	
	27	10	45	51.66	*10	14	51.5	10.26	5.46	0.857	4091	20	23	40	
	28	10	46	08.07		10	10	35.5	10.17	5.41	.864	3519	20	20	03
	29	10	46	27.01		10	06	05.5	10.09	5.37	.871	3577	20	16	28
	30	10	46	48.45		10	01	21.8	10.01	5.33	.878	4233	20	12	55
	MAY 1	10	47	12.36		9	56	24.4	9.93	5.28	.885	5458	20	09	25
	2	10	47	38.69	+	9	51	13.8	9.85	5.24	0.892	7219	20	05	57

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.					
	H	M	S	°	'	''				AU	H	M	S		
MAY	3	10	48	07.41	+	9	45	50.0	9.77	5.20	0.899	9487	20	02	32
	4	10	48	38.47		9	40	13.3	9.69	5.16	.907	2227	19	59	09
	5	10	49	11.83		9	34	24.0	9.62	5.12	.914	5412	19	55	48
	6	10	49	47.44		9	28	22.3	9.54	5.08	.921	9013	19	52	29
	7	10	50	25.26		9	22	08.4	9.46	5.04	.929	2997	19	49	13
	8	10	51	05.23	+	9	15	42.6	9.39	5.00	0.936	7340	19	45	58
	9	10	51	47.30		9	09	05.1	9.31	4.96	.944	2017	19	42	46
	10	10	52	31.43		9	02	16.2	9.24	4.92	.951	7002	19	39	36
	11	10	53	17.57		8	55	16.0	9.17	4.88	.959	2274	19	36	27
	12	10	54	05.67		8	48	04.9	9.10	4.84	.966	7812	19	33	21
	13	10	54	55.70	+	8	40	43.0	9.03	4.80	0.974	3597	19	30	16
14	10	55	47.60		8	33	10.6	8.96	4.77	.981	9610	19	27	14	
15	10	56	41.35		8	25	27.8	8.89	4.73	.989	5834	19	24	13	
16	10	57	36.89		8	17	34.9	8.82	4.69	0.997	2254	19	21	13	
17	10	58	34.18		8	09	32.0	8.75	4.66	1.004	8854	19	18	16	
18	10	59	33.20	+	8	01	19.4	8.68	4.62	1.012	5620	19	15	20	
19	11	00	33.90		7	52	57.1	8.62	4.59	.020	2537	19	12	26	
20	11	01	36.25		7	44	25.5	8.55	4.55	.027	9589	19	09	33	
21	11	02	40.21		7	35	44.6	8.49	4.52	.035	6764	19	06	42	
22	11	03	45.75		7	26	54.6	8.43	4.49	.043	4047	19	03	53	
23	11	04	52.83	+	7	17	55.6	8.37	4.45	1.051	1426	19	01	05	
24	11	06	01.44		7	08	47.8	8.30	4.42	.058	8885	18	58	18	
25	11	07	11.54		6	59	31.3	8.24	4.39	.066	6412	18	55	33	
26	11	08	23.10		6	50	06.2	8.19	4.36	.074	3992	18	52	50	
27	11	09	36.09		6	40	32.7	8.13	4.32	.082	1612	18	50	08	
28	11	10	50.49	+	6	30	50.8	8.07	4.29	1.089	9259	18	47	27	
29	11	12	06.28		6	21	00.8	8.01	4.26	.097	6916	18	44	48	
30	11	13	23.43		6	11	02.6	7.96	4.23	.105	4568	18	42	09	
31	11	14	41.91		6	00	56.4	7.90	4.20	.113	2201	18	39	33	
JUNE	1	11	16	01.70		5	50	42.3	7.84	4.17	.120	9798	18	36	57
	2	11	17	22.77	+	5	40	20.6	7.79	4.15	1.128	7343	18	34	23
	3	11	18	45.09		5	29	51.2	7.74	4.12	.136	4822	18	31	50
	4	11	20	08.63		5	19	14.5	7.69	4.09	.144	2219	18	29	18
	5	11	21	33.35		5	08	30.4	7.63	4.06	.151	9520	18	26	47
	6	11	22	59.24		4	57	39.3	7.58	4.04	.159	6715	18	24	18
	7	11	24	26.27	+	4	46	41.2	7.53	4.01	1.167	3794	18	21	49
	8	11	25	54.41		4	35	36.3	7.48	3.98	.175	0745	18	19	22
	9	11	27	23.63		4	24	24.7	7.44	3.96	.182	7561	18	16	56
	10	11	28	53.92		4	13	06.5	7.39	3.93	.190	4236	18	14	31
	11	11	30	25.26		4	01	42.0	7.34	3.91	.198	0761	18	12	06
12	11	31	57.61	+	3	50	11.1	7.29	3.88	1.205	7131	18	09	43	
13	11	33	30.97		3	38	34.2	7.25	3.86	.213	3343	18	07	21	
14	11	35	05.31		3	26	51.2	7.20	3.83	.220	9390	18	05	00	
15	11	36	40.62		3	15	02.3	7.16	3.81	.228	5268	18	02	39	
16	11	38	16.87		3	03	07.6	7.11	3.79	.236	0972	18	00	20	
17	11	39	54.06	+	2	51	07.4	7.07	3.76	1.243	6497	17	58	02	
18	11	41	32.17		2	39	01.5	7.03	3.74	.251	1842	17	55	44	
19	11	43	11.18		2	26	50.3	6.99	3.72	.258	6996	17	53	27	
20	11	44	51.08		2	14	33.7	6.95	3.70	.266	1960	17	51	12	
21	11	46	31.86		2	02	11.9	6.90	3.67	.273	6726	17	48	57	
22	11	48	13.51	+	1	49	45.0	6.86	3.65	1.281	1292	17	46	43	
23	11	49	56.02		1	37	13.0	6.82	3.63	.288	5650	17	44	29	
24	11	51	39.38		1	24	36.0	6.79	3.61	.295	9797	17	42	17	
25	11	53	23.58		1	11	54.2	6.75	3.59	.303	3724	17	40	06	
26	11	55	08.63		0	59	07.6	6.71	3.57	.310	7426	17	37	55	
27	11	56	54.50	+	0	46	16.2	6.67	3.55	1.318	0897	17	35	45	
28	11	58	41.19		0	33	20.2	6.63	3.53	.325	4126	17	33	36	
29	12	00	28.69		0	20	19.7	6.60	3.51	.332	7105	17	31	28	
30	12	02	16.99	+	0	07	14.9	6.56	3.49	.339	9828	17	29	20	
JULY	1	12	04	06.07	-	0	05	54.3	6.53	3.47	.347	2283	17	27	13
	2	12	05	55.93	-	0	19	07.6	6.49	3.46	1.354	4462	17	25	07

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.			
		H	M	S	°	'	"			"	"	AU	H	M	S
JULY	3	12	07	46.55	-	0	32	24.9	6.46	3.44	1.361	6358	17	23	02
	4	12	09	37.92		0	45	46.1	6.42	3.42	.368	7968	17	20	58
	5	12	11	30.03		0	59	11.0	6.39	3.40	.375	9283	17	18	54
	6	12	13	22.88		1	12	39.6	6.36	3.38	.383	0301	17	16	51
	7	12	15	16.44		1	26	11.7	6.33	3.37	.390	1019	17	14	49
	8	12	17	10.72	-	1	39	47.1	6.29	3.35	1.397	1436	17	12	47
	9	12	19	05.71		1	53	25.8	6.26	3.33	.404	1549	17	10	46
	10	12	21	01.41		2	07	07.6	6.23	3.32	.411	1359	17	08	46
	11	12	22	57.79		2	20	52.4	6.20	3.30	.418	0865	17	06	46
	12	12	24	54.86		2	34	40.1	6.17	3.28	.425	0066	17	04	48
	13	12	26	52.62	-	2	48	30.5	6.14	3.27	1.431	8963	17	02	49
	14	12	28	51.05		3	02	23.5	6.11	3.25	.438	7556	17	00	52
	15	12	30	50.15		3	16	19.1	6.08	3.24	.445	5847	16	58	55
	16	12	32	49.93		3	30	17.0	6.05	3.22	.452	3832	16	56	59
17	12	34	50.37		3	44	17.2	6.03	3.21	.459	1513	16	55	03	
AUG.	18	12	36	51.48	-	3	58	19.5	6.00	3.19	1.465	8890	16	53	09
	19	12	38	53.26		4	12	24.0	5.97	3.18	.472	5961	16	51	15
	20	12	40	55.70		4	26	30.4	5.94	3.16	.479	2728	16	49	21
	21	12	42	58.81		4	40	38.6	5.92	3.15	.485	9189	16	47	28
	22	12	45	02.59		4	54	48.6	5.89	3.14	.492	5341	16	45	36
	23	12	47	07.04	-	5	09	00.4	5.87	3.12	1.499	1184	16	43	45
	24	12	49	12.17		5	23	13.7	5.84	3.11	.505	6715	16	41	54
	25	12	51	17.97		5	37	28.4	5.82	3.09	.512	1930	16	40	04
	26	12	53	24.44		5	51	44.6	5.79	3.08	.518	6825	16	38	14
	27	12	55	31.59		6	06	02.0	5.77	3.07	.525	1395	16	36	25
	28	12	57	39.41	-	6	20	20.6	5.74	3.06	1.531	5635	16	34	37
	29	12	59	47.89		6	34	40.1	5.72	3.04	.537	9540	16	32	50
	30	13	01	57.04		6	49	00.5	5.69	3.03	.544	3103	16	31	03
	31	13	04	06.86		7	03	21.7	5.67	3.02	.550	6322	16	29	17
1	13	06	17.34		7	17	43.4	5.65	3.01	.556	9192	16	27	31	
SEPT.	2	13	08	28.48	-	7	32	05.5	5.63	2.99	1.563	1711	16	25	46
	3	13	10	40.28		7	46	27.9	5.60	2.98	.569	3877	16	24	02
	4	13	12	52.74		8	00	50.5	5.58	2.97	.575	5690	16	22	19
	5	13	15	05.86		8	15	13.0	5.56	2.96	.581	7152	16	20	36
	6	13	17	19.63		8	29	35.4	5.54	2.95	.587	8263	16	18	54
	7	13	19	34.06	-	8	43	57.5	5.52	2.94	1.593	9026	16	17	12
	8	13	21	49.15		8	58	19.2	5.50	2.93	.599	9442	16	15	31
	9	13	24	04.89		9	12	40.2	5.48	2.91	.605	9514	16	13	51
	10	13	26	21.29		9	27	00.6	5.46	2.90	.611	9244	16	12	11
	11	13	28	38.35		9	41	20.0	5.44	2.89	.617	8633	16	10	32
	12	13	30	56.06	-	9	55	38.4	5.42	2.88	1.623	7685	16	08	54
	13	13	33	14.43		10	09	55.6	5.40	2.87	.629	6403	16	07	16
	14	13	35	33.47		10	24	11.6	5.38	2.86	.635	4788	16	05	39
	15	13	37	53.18		10	38	26.0	5.36	2.85	.641	2842	16	04	03
16	13	40	13.56		10	52	38.9	5.34	2.84	.647	0570	16	02	28	
17	13	42	34.61	-11	06	50.1	5.32	2.83	1.652	7970	16	00	53		
18	13	44	56.35		11	20	59.4	5.30	2.82	.658	5047	15	59	18	
19	13	47	18.78		11	35	06.8	5.28	2.81	.664	1799	15	57	45	
20	13	49	41.90		11	49	12.1	5.27	2.80	.669	8229	15	56	12	
21	13	52	05.72		12	03	15.1	5.25	2.79	.675	4335	15	54	40	
22	13	54	30.24	-12	17	15.8	5.23	2.78	1.681	0118	15	53	08		
23	13	56	55.47		12	31	14.0	5.21	2.77	.686	5575	15	51	38	
24	13	59	21.41		12	45	09.6	5.20	2.77	.692	0704	15	50	07	
25	14	01	48.06		12	59	02.3	5.18	2.76	.697	5501	15	48	38	
26	14	04	15.43		13	12	52.1	5.16	2.75	.702	9963	15	47	09	
27	14	06	43.51	-13	26	38.8	5.15	2.74	1.708	4087	15	45	42		
28	14	09	12.30		13	40	22.1	5.13	2.73	.713	7871	15	44	14	
29	14	11	41.82		13	54	02.0	5.12	2.72	.719	1311	15	42	48	
30	14	14	12.06		14	07	38.2	5.10	2.71	.724	4407	15	41	22	
31	14	16	43.01		14	21	10.6	5.08	2.71	.729	7158	15	39	57	
1	14	19	14.70	-14	34	39.0	5.07	2.70	1.734	9565	15	38	33		

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	O	'	"			AU		H	M	S
SEPT. 2	14	21	47.10	-14	48	03.2	5.05	2.69	1.740	1631	15	37	09
3	14	24	20.23	15	01	23.1	5.04	2.68	.745	3355	15	35	46
4	14	26	54.08	15	14	38.4	5.02	2.67	.750	4744	15	34	24
5	14	29	28.65	15	27	49.0	5.01	2.67	.755	5799	15	33	03
6	14	32	03.95	15	40	54.7	4.99	2.66	.760	6526	15	31	42
7	14	34	39.97	-15	53	55.3	4.98	2.65	1.765	6927	15	30	22
8	14	37	16.71	16	06	50.7	4.97	2.64	.770	7006	15	29	03
9	14	39	54.18	16	19	40.6	4.95	2.64	.775	6764	15	27	44
10	14	42	32.39	16	32	24.9	4.94	2.63	.780	6210	15	26	26
11	14	45	11.32	16	45	03.4	4.93	2.62	.785	5345	15	25	09
12	14	47	50.99	-16	57	35.9	4.91	2.61	1.790	4174	15	23	53
13	14	50	31.40	17	10	02.2	4.90	2.61	.795	2699	15	22	37
14	14	53	12.55	17	22	22.3	4.89	2.60	.800	0926	15	21	23
15	14	55	54.45	17	34	35.9	4.87	2.59	.804	8858	15	20	08
16	14	58	37.10	17	46	42.8	4.86	2.59	.809	6496	15	18	55
17	15	01	20.50	-17	58	43.0	4.85	2.58	1.814	3844	15	17	42
18	15	04	04.67	18	10	36.1	4.83	2.57	.819	0901	15	16	31
19	15	06	49.60	18	22	22.2	4.82	2.57	.823	7672	15	15	20
20	15	09	35.28	18	34	00.9	4.81	2.56	.828	4151	15	14	09
21	15	12	21.73	18	45	32.2	4.80	2.55	.833	0342	15	13	00
22	15	15	08.94	-18	56	55.8	4.79	2.55	1.837	6242	15	11	51
23	15	17	56.91	19	08	11.5	4.77	2.54	.842	1849	15	10	43
24	15	20	45.65	19	19	19.1	4.76	2.53	.846	7161	15	09	35
25	15	23	35.14	19	30	18.4	4.75	2.53	.851	2177	15	08	29
26	15	26	25.40	19	41	09.3	4.74	2.52	.855	6894	15	07	23
27	15	29	16.41	-19	51	51.6	4.73	2.52	1.860	1311	15	06	18
28	15	32	08.18	20	02	24.9	4.72	2.51	.864	5429	15	05	14
29	15	35	00.70	20	12	49.3	4.71	2.50	.868	9250	15	04	10
30	15	37	53.97	20	23	04.4	4.69	2.50	.873	2775	15	03	08
OCT. 1	15	40	47.98	20	33	10.1	4.68	2.49	.877	6008	15	02	06
2	15	43	42.73	-20	43	06.1	4.67	2.49	1.881	8951	15	01	04
3	15	46	38.20	20	52	52.3	4.66	2.48	.886	1609	15	00	04
4	15	49	34.40	21	02	28.5	4.65	2.48	.890	3985	14	59	04
5	15	52	31.32	21	11	54.5	4.64	2.47	.894	6084	14	58	05
6	15	55	28.96	21	21	10.0	4.63	2.46	.898	7910	14	57	06
7	15	58	27.31	-21	30	14.9	4.62	2.46	1.902	9467	14	56	09
8	16	01	26.35	21	39	09.0	4.61	2.45	.907	0762	14	55	11
9	16	04	26.10	21	47	52.1	4.60	2.45	.911	1799	14	54	15
10	16	07	26.55	21	56	24.1	4.59	2.44	.915	2581	14	53	20
11	16	10	27.69	22	04	44.7	4.58	2.44	.919	3115	14	52	25
12	16	13	29.52	-22	12	53.8	4.57	2.43	1.923	3405	14	51	30
13	16	16	32.04	22	20	51.2	4.56	2.43	.927	3458	14	50	37
14	16	19	35.23	22	28	36.7	4.55	2.42	.931	3274	14	49	44
15	16	22	39.11	22	36	10.2	4.54	2.42	.935	2857	14	48	52
16	16	25	43.65	22	43	31.6	4.53	2.41	.939	2213	14	48	00
17	16	28	48.86	-22	50	40.6	4.53	2.41	1.943	1340	14	47	09
18	16	31	54.73	22	57	37.1	4.52	2.40	.947	0240	14	46	19
19	16	35	01.24	23	04	21.0	4.51	2.40	.950	8914	14	45	29
20	16	38	08.39	23	10	52.0	4.50	2.39	.954	7360	14	44	40
21	16	41	16.18	23	17	10.0	4.49	2.39	.958	5581	14	43	52
22	16	44	24.58	-23	23	14.7	4.48	2.38	1.962	3571	14	43	04
23	16	47	33.60	23	29	06.2	4.47	2.38	.966	1331	14	42	17
24	16	50	43.22	23	34	44.0	4.46	2.38	.969	8860	14	41	30
25	16	53	53.44	23	40	08.2	4.46	2.37	.973	6157	14	40	45
26	16	57	04.23	23	45	18.6	4.45	2.37	.977	3222	14	39	59
27	17	00	15.60	-23	50	15.0	4.44	2.36	1.981	0057	14	39	14
28	17	03	27.51	23	54	57.2	4.43	2.36	.984	6664	14	38	30
29	17	06	39.96	23	59	25.2	4.42	2.35	.988	3043	14	37	46
30	17	09	52.92	24	03	38.7	4.41	2.35	.991	9198	14	37	03
31	17	13	06.39	24	07	37.7	4.41	2.35	.995	5135	14	36	20
NOV. 1	17	16	20.35	-24	11	22.0	4.40	2.34	1.999	0856	14	35	38

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	O	°	'	''	''	''	AU	H	M	S
NOV.	2	17	19	34.77	-24	14	51.5	4.39	2.34	2.002 6365	14	34	56
	3	17	22	49.65	24	18	05.9	4.38	2.33	.006 1667	14	34	15
	4	17	26	04.97	24	21	05.3	4.38	2.33	.009 6767	14	33	34
	5	17	29	20.72	24	23	49.5	4.37	2.32	.013 1668	14	32	53
	6	17	32	36.88	24	26	18.3	4.36	2.32	.016 6377	14	32	13
	7	17	35	53.43	-24	28	31.7	4.35	2.32	2.020 0900	14	31	33
	8	17	39	10.36	24	30	29.6	4.35	2.31	.023 5240	14	30	54
	9	17	42	27.66	24	32	11.8	4.34	2.31	.026 9404	14	30	15
	10	17	45	45.32	24	33	38.4	4.33	2.31	.030 3397	14	29	36
	11	17	49	03.32	24	34	49.2	4.32	2.30	.033 7225	14	28	58
	12	17	52	21.64	-24	35	44.1	4.32	2.30	2.037 0890	14	28	20
	13	17	55	40.27	24	36	23.1	4.31	2.29	.040 4395	14	27	42
	14	17	58	59.19	24	36	46.2	4.30	2.29	.043 7745	14	27	05
	15	18	02	18.39	24	36	53.2	4.30	2.29	.047 0940	14	26	27
	16	18	05	37.85	24	36	44.1	4.29	2.28	.050 3980	14	25	51
	17	18	08	57.56	-24	36	18.8	4.28	2.28	2.053 6866	14	25	14
DEC.	18	18	12	17.49	24	35	37.2	4.28	2.28	.056 9596	14	24	37
	19	18	15	37.64	24	34	39.4	4.27	2.27	.060 2171	14	24	01
	20	18	18	57.98	24	33	25.2	4.26	2.27	.063 4588	14	23	25
	21	18	22	18.51	24	31	54.6	4.26	2.26	.066 6846	14	22	49
	22	18	25	39.20	-24	30	07.6	4.25	2.26	2.069 8947	14	22	13
	23	18	29	00.04	24	28	04.2	4.24	2.26	.073 0887	14	21	38
	24	18	32	21.00	24	25	44.3	4.24	2.25	.076 2670	14	21	02
	25	18	35	42.06	24	23	08.0	4.23	2.25	.079 4294	14	20	27
	26	18	39	03.21	24	20	15.2	4.22	2.25	.082 5760	14	19	51
	27	18	42	24.42	-24	17	06.0	4.22	2.24	2.085 7074	14	19	16
	28	18	45	45.67	24	13	40.3	4.21	2.24	.088 8236	14	18	41
	29	18	49	06.94	24	09	58.2	4.20	2.24	.091 9250	14	18	06
	30	18	52	28.21	24	05	59.7	4.20	2.23	.095 0118	14	17	30
	1	18	55	49.47	24	01	44.8	4.19	2.23	.098 0847	14	16	55
	2	18	59	10.69	-23	57	13.5	4.19	2.23	2.101 1437	14	16	20
	3	19	02	31.87	23	52	25.9	4.18	2.22	.104 1895	14	15	44
	4	19	05	52.97	23	47	21.9	4.17	2.22	.107 2224	14	15	09
	5	19	09	13.99	23	42	01.7	4.17	2.22	.110 2429	14	14	33
	6	19	12	34.91	23	36	25.3	4.16	2.21	.113 2515	14	13	57
	7	19	15	55.72	-23	30	32.8	4.16	2.21	2.116 2489	14	13	22
	8	19	19	16.40	23	24	24.2	4.15	2.21	.119 2354	14	12	46
	9	19	22	36.94	23	17	59.6	4.14	2.21	.122 2117	14	12	10
	10	19	25	57.32	23	11	19.1	4.14	2.20	.125 1781	14	11	33
	11	19	29	17.53	23	04	22.8	4.13	2.20	.128 1350	14	10	57
	12	19	32	37.56	-22	57	10.8	4.13	2.20	2.131 0826	14	10	20
	13	19	35	57.39	22	49	43.2	4.12	2.19	.134 0212	14	09	43
	14	19	39	17.00	22	42	00.0	4.12	2.19	.136 9506	14	09	06
	15	19	42	36.40	22	34	01.3	4.11	2.19	.139 8711	14	08	29
	16	19	45	55.56	22	25	47.3	4.10	2.18	.142 7823	14	07	52
	17	19	49	14.49	-22	17	17.9	4.10	2.18	2.145 6842	14	07	14
	18	19	52	33.16	22	08	33.4	4.09	2.18	.148 5766	14	06	36
	19	19	55	51.56	21	59	33.8	4.09	2.18	.151 4595	14	05	58
	20	19	59	09.69	21	50	19.3	4.08	2.17	.154 3326	14	05	19
	21	20	02	27.54	21	40	50.0	4.08	2.17	.157 1959	14	04	40
	22	20	05	45.08	-21	31	06.0	4.07	2.17	2.160 0492	14	04	01
	23	20	09	02.31	21	21	07.5	4.07	2.16	.162 8925	14	03	21
	24	20	12	19.21	21	10	54.7	4.06	2.16	.165 7259	14	02	42
	25	20	15	35.78	21	00	27.6	4.06	2.16	.168 5494	14	02	01
	26	20	18	51.99	20	49	46.4	4.05	2.16	.171 3631	14	01	21
	27	20	22	07.84	-20	38	51.4	4.04	2.15	2.174 1673	14	00	40
	28	20	25	23.31	20	27	42.6	4.04	2.15	.176 9620	13	59	59
	29	20	28	38.41	20	16	20.2	4.03	2.15	.179 7475	13	59	17
	30	20	31	53.11	20	04	44.3	4.03	2.14	.182 5242	13	58	35
	31	20	35	07.42	19	52	55.2	4.02	2.14	2.185 2922	13	57	52

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	O	'	"			AU		H	M	S
JAN.	1	20	38	21.33	-19	40	53.0	4.02	2.14	2.188	0519	13	57	10
	2	20	41	34.82	19	28	37.9	4.01	2.14	.190	8037	13	56	26
	3	20	44	47.90	19	16	10.0	4.01	2.13	.193	5478	13	55	43
	4	20	48	00.56	19	03	29.6	4.00	2.13	.196	2849	13	54	58
	5	20	51	12.80	18	50	36.8	4.00	2.13	.199	0153	13	54	14
	6	20	54	24.61	-18	37	31.9	3.99	2.13	2.201	7395	13	53	29
	7	20	57	35.98	18	24	15.0	3.99	2.12	.204	4578	13	52	44
	8	21	00	46.93	18	10	46.3	3.98	2.12	.207	1706	13	51	58
	9	21	03	57.43	17	57	06.0	3.98	2.12	.209	8783	13	51	11
	10	21	07	07.49	17	43	14.2	3.97	2.12	.212	5807	13	50	25
	11	21	10	17.11	-17	29	11.3	3.97	2.11	2.215	2781	13	49	38
	12	21	13	26.30	17	14	57.3	3.96	2.11	.217	9704	13	48	50
	13	21	16	35.05	17	00	32.4	3.96	2.11	.220	6573	13	48	02
	14	21	19	43.36	16	45	56.7	3.96	2.10	.223	3387	13	47	13
	15	21	22	51.23	16	31	10.6	3.95	2.10	.226	0143	13	46	25
	16	21	25	58.68	-16	16	14.2	3.95	2.10	2.228	6837	13	45	35
	17	21	29	05.69	16	01	07.6	3.94	2.10	.231	3468	13	44	45
	18	21	32	12.27	15	45	51.2	3.94	2.09	.234	0033	13	43	55
	19	21	35	18.40	15	30	25.1	3.93	2.09	.236	6531	13	43	05
	20	21	38	24.11	15	14	49.5	3.93	2.09	.239	2959	13	42	13
	21	21	41	29.37	-14	59	04.6	3.92	2.09	2.241	9315	13	41	22
	22	21	44	34.20	14	43	10.8	3.92	2.09	.244	5600	13	40	30
	23	21	47	38.58	14	27	08.1	3.91	2.08	.247	1811	13	39	38
	24	21	50	42.53	14	10	56.8	3.91	2.08	.249	7948	13	38	45
	25	21	53	46.04	13	54	37.1	3.90	2.08	.252	4014	13	37	52
	26	21	56	49.11	-13	38	09.2	3.90	2.08	2.255	0006	13	36	58
	27	21	59	51.76	13	21	33.3	3.90	2.07	.257	5926	13	36	04
	28	22	02	53.97	13	04	49.8	3.89	2.07	.260	1776	13	35	09
	29	22	05	55.75	12	47	58.6	3.89	2.07	.262	7556	13	34	14
	30	22	08	57.11	12	31	00.2	3.88	2.07	.265	3268	13	33	19
FEB.	31	22	11	58.06	-12	13	54.7	3.88	2.06	2.267	8915	13	32	23
	1	22	14	58.59	11	56	42.3	3.87	2.06	.270	4500	13	31	27
	2	22	17	58.71	11	39	23.2	3.87	2.06	.273	0024	13	30	30
	3	22	20	58.42	11	21	57.7	3.86	2.06	.275	5494	13	29	33
	4	22	23	57.73	11	04	26.0	3.86	2.05	.278	0910	13	28	36
	5	22	26	56.65	-10	46	48.3	3.86	2.05	2.280	6275	13	27	38
	6	22	29	55.18	10	29	04.8	3.85	2.05	.283	1592	13	26	40
	7	22	32	53.32	10	11	15.7	3.85	2.05	.285	6863	13	25	41
	8	22	35	51.09	9	53	21.3	3.84	2.05	.288	2086	13	24	42
	9	22	38	48.49	9	35	21.6	3.84	2.04	.290	7260	13	23	43
	10	22	41	45.54	-9	17	16.9	3.83	2.04	2.293	2384	13	22	43
	11	22	44	42.24	8	59	07.4	3.83	2.04	.295	7452	13	21	43
	12	22	47	38.61	8	40	53.2	3.83	2.04	.298	2463	13	20	43
	13	22	50	34.65	8	22	34.6	3.82	2.03	.300	7412	13	19	42
	14	22	53	30.36	8	04	11.7	3.82	2.03	.303	2295	13	18	41
	15	22	56	25.76	-7	45	44.9	3.81	2.03	2.305	7109	13	17	40
	16	22	59	20.85	7	27	14.2	3.81	2.03	.308	1849	13	16	38
	17	23	02	15.63	7	08	40.0	3.81	2.03	.310	6513	13	15	36
	18	23	05	10.11	6	50	02.4	3.80	2.02	.313	1097	13	14	34
	19	23	08	04.30	6	31	21.7	3.80	2.02	.315	5597	13	13	32
	20	23	10	58.20	-6	12	38.0	3.79	2.02	2.318	0013	13	12	29
	21	23	13	51.82	5	53	51.5	3.79	2.02	.320	4341	13	11	26
	22	23	16	45.16	5	35	02.5	3.79	2.01	.322	8580	13	10	23
	23	23	19	38.24	5	16	11.3	3.78	2.01	.325	2727	13	09	19
	24	23	22	31.05	4	57	17.8	3.78	2.01	.327	6784	13	08	15
	25	23	25	23.62	-4	38	22.5	3.77	2.01	2.330	0746	13	07	11
	26	23	28	15.93	4	19	25.5	3.77	2.01	.332	4615	13	06	07
	27	23	31	08.02	4	00	26.9	3.77	2.00	.334	8391	13	05	02
	28	23	33	59.87	3	41	27.1	3.76	2.00	.337	2074	13	03	58
MAR.	1	23	36	51.49	3	22	26.1	3.76	2.00	.339	5666	13	02	53
	2	23	39	42.91	-3	03	24.3	3.76	2.00	2.341	9167	13	01	47

		DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"	"	"	AU	H	M	S		
MAR.	3	23	42	34.11	-	2	44	21.7	3.75	2.00	2.344	2581	13	00	42
	4	23	45	25.11		2	25	18.7	3.75	1.99	.346	5907	12	59	36
	5	23	48	15.92		2	06	15.5	3.74	1.99	.348	9149	12	58	30
	6	23	51	06.54		1	47	12.1	3.74	1.99	.351	2309	12	57	24
	7	23	53	56.99		1	28	08.8	3.74	1.99	.353	5386	12	56	18
	8	23	56	47.27	-	1	09	05.8	3.73	1.99	2.355	8380	12	55	12
	9	23	59	37.40		0	50	03.2	3.73	1.98	.358	1289	12	54	06
	10	0	02	27.39		0	31	01.2	3.73	1.98	.360	4111	12	52	59
	11	0	05	17.26	-	0	11	59.9	3.72	1.98	.362	6843	12	51	52
	12	0	08	07.00	+	0	07	00.5	3.72	1.98	.364	9477	12	50	46
	13	0	10	56.64	+	0	25	59.8	3.71	1.98	2.367	2013	12	49	39
	14	0	13	46.17		0	44	57.8	3.71	1.98	.369	4442	12	48	32
	15	0	16	35.61		1	03	54.3	3.71	1.97	.371	6760	12	47	24
	16	0	19	24.96		1	22	49.2	3.70	1.97	.373	8964	12	46	17
	17	0	22	14.23		1	41	42.3	3.70	1.97	.376	1046	12	45	10
	18	0	25	03.43	+	2	00	33.4	3.70	1.97	2.378	3002	12	44	03
	19	0	27	52.56		2	19	22.3	3.69	1.97	.380	4830	12	42	55
	20	0	30	41.64		2	38	08.7	3.69	1.96	.382	6524	12	41	48
	21	0	33	30.66		2	56	52.6	3.69	1.96	.384	8082	12	40	40
	22	0	36	19.63		3	15	33.8	3.68	1.96	.386	9498	12	39	33
	23	0	39	08.57	+	3	34	12.0	3.68	1.96	2.389	0769	12	38	25
	24	0	41	57.48		3	52	47.2	3.68	1.96	.391	1894	12	37	18
	25	0	44	46.37		4	11	19.1	3.67	1.96	.393	2867	12	36	10
	26	0	47	35.25		4	29	47.5	3.67	1.95	.395	3690	12	35	02
	27	0	50	24.11		4	48	12.2	3.67	1.95	.397	4358	12	33	55
	28	0	53	12.97	+	5	06	33.2	3.66	1.95	2.399	4873	12	32	47
	29	0	56	01.84		5	24	50.2	3.66	1.95	.401	5233	12	31	39
	30	0	58	50.71		5	43	03.0	3.66	1.95	.403	5439	12	30	32
	31	1	01	39.60		6	01	11.5	3.66	1.95	.405	5490	12	29	24
	APR. 1	1	04	28.50		6	19	15.5	3.65	1.94	.407	5390	12	28	17
	2	1	07	17.44	+	6	37	14.7	3.65	1.94	2.409	5137	12	27	09
	3	1	10	06.40		6	55	09.1	3.65	1.94	.411	4734	12	26	02
	4	1	12	55.41		7	12	58.5	3.64	1.94	.413	4179	12	24	54
	5	1	15	44.46		7	30	42.8	3.64	1.94	.415	3473	12	23	47
	6	1	18	33.58		7	48	21.8	3.64	1.94	.417	2612	12	22	39
	7	1	21	22.78	+	8	05	55.4	3.64	1.93	2.419	1597	12	21	32
	8	1	24	12.05		8	23	23.4	3.63	1.93	.421	0421	12	20	25
	9	1	27	01.42		8	40	45.7	3.63	1.93	.422	9081	12	19	18
	10	1	29	50.88		8	58	02.3	3.63	1.93	.424	7570	12	18	11
	11	1	32	40.44		9	15	12.8	3.62	1.93	.426	5885	12	17	04
	12	1	35	30.10	+	9	32	17.2	3.62	1.93	2.428	4018	12	15	57
	13	1	38	19.88		9	49	15.3	3.62	1.93	.430	1963	12	14	50
	14	1	41	09.77		10	06	07.0	3.62	1.92	.431	9716	12	13	44
	15	1	43	59.79		10	22	52.1	3.61	1.92	.433	7270	12	12	37
	16	1	46	49.93		10	39	30.4	3.61	1.92	.435	4621	12	11	31
	17	1	49	40.20	+10	56	01.9		3.61	1.92	2.437	1761	12	10	25
	18	1	52	30.60		11	12	26.3	3.61	1.92	.438	8689	12	09	19
	19	1	55	21.15		11	28	43.4	3.60	1.92	.440	5398	12	08	13
	20	1	58	11.84		11	44	53.3	3.60	1.92	.442	1882	12	07	07
	21	2	01	02.68		12	00	55.7	3.60	1.92	.443	8138	12	06	02
	22	2	03	53.66	+12	16	50.4		3.60	1.91	2.445	4163	12	04	56
	23	2	06	44.81		12	32	37.3	3.59	1.91	.446	9952	12	03	51
	24	2	09	36.11		12	48	16.3	3.59	1.91	.448	5504	12	02	46
	25	2	12	27.57		13	03	47.3	3.59	1.91	.450	0816	12	01	41
	26	2	15	19.19		13	19	10.0	3.59	1.91	.451	5887	12	00	36
	27	2	18	10.97	+13	34	24.4		3.58	1.91	2.453	0716	11	59	31
	28	2	21	02.91		13	49	30.3	3.58	1.91	.454	5303	11	58	27
	29	2	23	55.01		14	04	27.5	3.58	1.91	.455	9650	11	57	23
	30	2	26	47.27		14	19	15.9	3.58	1.90	.457	3755	11	56	19
	MAY 1	2	29	39.70		14	33	55.4	3.58	1.90	.458	7618	11	55	15
2	2	32	32.31	+14	48	25.9		3.57	1.90	2.460	1240	11	54	11	

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"	"	"	AU		H	M	S
MAY	3	2	35	25.09	+15	02	47.2	3.57	1.90	2.461	4620	11	53	07
	4	2	38	18.05	15	16	59.3	3.57	1.90	.462	7757	11	52	04
	5	2	41	11.20	15	31	02.0	3.57	1.90	.464	0649	11	51	00
	6	2	44	04.55	15	44	55.3	3.57	1.90	.465	3292	11	49	57
	7	2	46	58.08	15	58	39.0	3.57	1.90	.466	5681	11	48	54
	8	2	49	51.81	+16	12	13.1	3.56	1.90	2.467	7812	11	47	52
	9	2	52	45.74	16	25	37.4	3.56	1.90	.468	9678	11	46	49
	10	2	55	39.86	16	38	51.8	3.56	1.89	.470	1274	11	45	47
	11	2	58	34.18	16	51	56.2	3.56	1.89	.471	2594	11	44	45
	12	3	01	28.69	17	04	50.5	3.56	1.89	.472	3632	11	43	43
	13	3	04	23.40	+17	17	34.5	3.56	1.89	2.473	4382	11	42	41
	14	3	07	18.30	17	30	08.2	3.55	1.89	.474	4837	11	41	40
	15	3	10	13.40	17	42	31.5	3.55	1.89	.475	4992	11	40	38
	16	3	13	08.69	17	54	44.1	3.55	1.89	.476	4843	11	39	37
	17	3	16	04.17	18	06	46.1	3.55	1.89	.477	4382	11	38	36
	18	3	18	59.85	+18	18	37.4	3.55	1.89	2.478	3605	11	37	36
	19	3	21	55.72	18	30	17.7	3.55	1.89	.479	2506	11	36	35
	20	3	24	51.77	18	41	47.1	3.55	1.89	.480	1079	11	35	35
	21	3	27	48.01	18	53	05.4	3.54	1.89	.480	9321	11	34	34
	22	3	30	44.43	19	04	12.6	3.54	1.89	.481	7230	11	33	34
	23	3	33	41.02	+19	15	08.4	3.54	1.89	2.482	4802	11	32	35
	24	3	36	37.78	19	25	53.0	3.54	1.88	.483	2035	11	31	35
	25	3	39	34.70	19	36	26.0	3.54	1.88	.483	8928	11	30	35
	26	3	42	31.78	19	46	47.5	3.54	1.88	.484	5481	11	29	36
	27	3	45	29.01	19	56	57.4	3.54	1.88	.485	1694	11	28	37
	28	3	48	26.38	+20	06	55.5	3.54	1.88	2.485	7567	11	27	38
	29	3	51	23.90	20	16	41.7	3.54	1.88	.486	3099	11	26	39
	30	3	54	21.56	20	26	16.1	3.54	1.88	.486	8292	11	25	40
	31	3	57	19.36	20	35	38.6	3.54	1.88	.487	3144	11	24	41
JUNE	1	4	00	17.30	20	44	49.0	3.53	1.88	.487	7654	11	23	43
	2	4	03	15.38	+20	53	47.4	3.53	1.88	2.488	1819	11	22	45
	3	4	06	13.59	21	02	33.6	3.53	1.88	.488	5639	11	21	46
	4	4	09	11.93	21	11	07.8	3.53	1.88	.488	9108	11	20	48
	5	4	12	10.40	21	19	29.7	3.53	1.88	.489	2223	11	19	50
	6	4	15	08.98	21	27	39.3	3.53	1.88	.489	4979	11	18	52
	7	4	18	07.67	+21	35	36.7	3.53	1.88	2.489	7370	11	17	54
	8	4	21	06.48	21	43	21.6	3.53	1.88	.489	9390	11	16	57
	9	4	24	05.38	21	50	54.1	3.53	1.88	.490	1033	11	15	59
	10	4	27	04.38	21	58	14.2	3.53	1.88	.490	2294	11	15	02
	11	4	30	03.47	22	05	21.7	3.53	1.88	.490	3166	11	14	04
	12	4	33	02.64	+22	12	16.6	3.53	1.88	2.490	3645	11	13	07
	13	4	36	01.89	22	18	58.9	3.53	1.88	.490	3724	11	12	10
	14	4	39	01.21	22	25	28.5	3.53	1.88	.490	3398	11	11	13
	15	4	42	00.59	22	31	45.4	3.53	1.88	.490	2660	11	10	16
	16	4	45	00.03	22	37	49.6	3.53	1.88	.490	1505	11	09	18
	17	4	47	59.51	+22	43	41.0	3.53	1.88	2.489	9927	11	08	21
	18	4	50	59.03	22	49	19.6	3.53	1.88	.489	7923	11	07	24
	19	4	53	58.58	22	54	45.4	3.53	1.88	.489	5487	11	06	28
	20	4	56	58.14	22	59	58.4	3.53	1.88	.489	2616	11	05	31
	21	4	59	57.71	23	04	58.5	3.53	1.88	.488	9311	11	04	34
	22	5	02	57.26	+23	09	45.7	3.53	1.88	2.488	5567	11	03	37
	23	5	05	56.79	23	14	20.0	3.53	1.88	.488	1386	11	02	40
	24	5	08	56.29	23	18	41.3	3.54	1.88	.487	6766	11	01	43
	25	5	11	55.76	23	22	49.7	3.54	1.88	.487	1710	11	00	45
	26	5	14	55.17	23	26	45.1	3.54	1.88	.486	6216	10	59	48
	27	5	17	54.54	+23	30	27.6	3.54	1.88	2.486	0287	10	58	51
	28	5	20	53.84	23	33	57.1	3.54	1.88	.485	3921	10	57	54
	29	5	23	53.08	23	37	13.7	3.54	1.88	.484	7117	10	56	57
	30	5	26	52.25	23	40	17.4	3.54	1.88	.483	9874	10	55	59
JULY	1	5	29	51.33	23	43	08.2	3.54	1.88	.483	2192	10	55	02
	2	5	32	50.33	+23	45	46.1	3.54	1.89	2.482	4065	10	54	04

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"	"	"	AU		H	M	S
JULY	3	5	35	49.23	+23	48	11.2	3.54	1.89	2.481	5492	10	53	07
	4	5	38	48.02	23	50	23.5	3.55	1.89	.480	6468	10	52	09
	5	5	41	46.69	23	52	23.0	3.55	1.89	.479	6989	10	51	11
	6	5	44	45.25	23	54	09.7	3.55	1.89	.478	7050	10	50	13
	7	5	47	43.67	23	55	43.6	3.55	1.89	.477	6647	10	49	15
	8	5	50	41.95	+23	57	04.8	3.55	1.89	2.476	5772	10	48	16
	9	5	53	40.08	23	58	13.3	3.55	1.89	.475	4421	10	47	18
	10	5	56	38.05	23	59	09.1	3.55	1.89	.474	2589	10	46	19
	11	5	59	35.86	23	59	52.2	3.56	1.89	.473	0271	10	45	21
	12	6	02	33.50	24	00	22.7	3.56	1.89	.471	7460	10	44	22
	13	6	05	30.96	+24	00	40.6	3.56	1.89	2.470	4152	10	43	22
	14	6	08	28.23	24	00	46.0	3.56	1.90	.469	0342	10	42	23
	15	6	11	25.30	24	00	38.9	3.56	1.90	.467	6021	10	41	24
	16	6	14	22.16	24	00	19.4	3.57	1.90	.466	1188	10	40	24
	17	6	17	18.80	23	59	47.5	3.57	1.90	.464	5837	10	39	24
	18	6	20	15.20	+23	59	03.3	3.57	1.90	2.462	9966	10	38	24
	19	6	23	11.36	23	58	06.9	3.57	1.90	.461	3570	10	37	23
	20	6	26	07.25	23	56	58.2	3.58	1.90	.459	6652	10	36	22
	21	6	29	02.87	23	55	37.4	3.58	1.90	.457	9207	10	35	21
	22	6	31	58.21	23	54	04.5	3.58	1.91	.456	1240	10	34	20
	23	6	34	53.26	+23	52	19.6	3.58	1.91	2.454	2749	10	33	18
	24	6	37	48.01	23	50	22.7	3.59	1.91	.452	3737	10	32	17
	25	6	40	42.46	23	48	13.9	3.59	1.91	.450	4204	10	31	14
	26	6	43	36.61	23	45	53.3	3.59	1.91	.448	4152	10	30	12
	27	6	46	30.45	23	43	21.0	3.59	1.91	.446	3581	10	29	09
	28	6	49	23.97	+23	40	37.0	3.60	1.91	2.444	2489	10	28	06
	29	6	52	17.16	23	37	41.6	3.60	1.92	.442	0878	10	27	02
	30	6	55	10.02	23	34	34.6	3.60	1.92	.439	8743	10	25	59
	31	6	58	02.54	23	31	16.3	3.61	1.92	.437	6084	10	24	55
	AUG. 1	7	00	54.71	23	27	46.7	3.61	1.92	.435	2897	10	23	50
	2	7	03	46.53	+23	24	05.9	3.61	1.92	2.432	9179	10	22	45
	3	7	06	38.00	23	20	14.0	3.62	1.93	.430	4927	10	21	40
	4	7	09	29.11	23	16	11.0	3.62	1.93	.428	0137	10	20	34
	5	7	12	19.85	23	11	57.0	3.63	1.93	.425	4805	10	19	29
	6	7	15	10.22	23	07	32.2	3.63	1.93	.422	8926	10	18	22
	7	7	18	00.22	+23	02	56.5	3.63	1.93	2.420	2493	10	17	16
	8	7	20	49.83	22	58	10.2	3.64	1.94	.417	5506	10	16	09
	9	7	23	39.07	22	53	13.3	3.64	1.94	.414	7958	10	15	01
	10	7	26	27.91	22	48	05.8	3.65	1.94	.411	9844	10	13	53
	11	7	29	16.37	22	42	48.0	3.65	1.94	.409	1161	10	12	45
	12	7	32	04.42	+22	37	19.8	3.65	1.94	2.406	1902	10	11	36
	13	7	34	52.07	22	31	41.5	3.66	1.95	.403	2063	10	10	27
	14	7	37	39.31	22	25	53.1	3.66	1.95	.400	1640	10	09	18
	15	7	40	26.12	22	19	54.8	3.67	1.95	.397	0633	10	08	08
	16	7	43	12.50	22	13	46.6	3.67	1.95	.393	9034	10	06	58
	17	7	45	58.44	+22	07	28.6	3.68	1.96	2.390	6847	10	05	47
	18	7	48	43.94	22	01	01.0	3.68	1.96	.387	4070	10	04	36
	19	7	51	28.98	21	54	23.9	3.69	1.96	.384	0704	10	03	24
	20	7	54	13.58	21	47	37.4	3.69	1.97	.380	6752	10	02	12
	21	7	56	57.72	21	40	41.5	3.70	1.97	.377	2217	10	01	00
	22	7	59	41.41	+21	33	36.4	3.70	1.97	2.373	7100	9	59	47
	23	8	02	24.63	21	26	22.3	3.71	1.97	.370	1404	9	58	33
	24	8	05	07.40	21	18	59.2	3.72	1.98	.366	5130	9	57	19
	25	8	07	49.71	21	11	27.3	3.72	1.98	.362	8279	9	56	05
	26	8	10	31.56	21	03	46.7	3.73	1.98	.359	0852	9	54	50
	27	8	13	12.94	+20	55	57.6	3.73	1.99	2.355	2849	9	53	35
	28	8	15	53.85	20	47	59.9	3.74	1.99	.351	4266	9	52	19
	29	8	18	34.30	20	39	53.9	3.75	1.99	.347	5107	9	51	03
	30	8	21	14.28	20	31	39.6	3.75	2.00	.343	5367	9	49	46
	31	8	23	53.79	20	23	17.2	3.76	2.00	.339	5044	9	48	29
	SEPT. 1	8	26	32.63	+20	14	46.8	3.77	2.00	2.335	4137	9	47	11

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	"			AU		H	M	S
SEPT. 2	8	29	11.41	+20	06	08.4	3.77	2.01	2.331	2642	9	45	53
3	8	31	49.52	19	57	22.2	3.78	2.01	.327	0556	9	44	35
4	8	34	27.17	19	48	28.3	3.79	2.01	.322	7877	9	43	16
5	8	37	04.36	19	39	26.8	3.79	2.02	.318	4601	9	41	56
6	8	39	41.08	19	30	17.8	3.80	2.02	.314	0726	9	40	36
7	8	42	17.34	+19	21	01.5	3.81	2.03	2.309	6246	9	39	16
8	8	44	53.13	19	11	37.9	3.81	2.03	.305	1158	9	37	55
9	8	47	28.46	19	02	07.2	3.82	2.03	.300	5459	9	36	34
10	8	50	03.33	18	52	29.5	3.83	2.04	.295	9147	9	35	12
11	8	52	37.72	18	42	45.0	3.84	2.04	.291	2217	9	33	49
12	8	55	11.64	+18	32	53.8	3.85	2.05	2.286	4667	9	32	27
13	8	57	45.08	18	22	56.0	3.85	2.05	.281	6495	9	31	03
14	9	00	18.04	18	12	51.7	3.86	2.06	.276	7701	9	29	40
15	9	02	50.52	18	02	41.0	3.87	2.06	.271	8289	9	28	16
16	9	05	22.52	17	52	24.2	3.88	2.06	.266	8256	9	26	51
17	9	07	54.04	+17	42	01.3	3.89	2.07	2.261	7609	9	25	26
18	9	10	25.08	17	31	32.3	3.90	2.07	.256	6350	9	24	00
19	9	12	55.65	17	20	57.6	3.91	2.08	.251	4482	9	22	34
20	9	15	25.74	17	10	17.1	3.92	2.08	.246	2012	9	21	08
21	9	17	55.35	16	59	31.1	3.92	2.09	.240	8940	9	19	40
22	9	20	24.49	+16	48	39.6	3.93	2.09	2.235	5272	9	18	13
23	9	22	53.16	16	37	42.8	3.94	2.10	.230	1008	9	16	45
24	9	25	21.37	16	26	40.8	3.95	2.10	.224	6152	9	15	17
25	9	27	49.10	16	15	33.6	3.96	2.11	.219	0703	9	13	48
26	9	30	16.37	16	04	21.5	3.97	2.11	.213	4663	9	12	18
27	9	32	43.18	+15	53	04.6	3.98	2.12	2.207	8032	9	10	48
28	9	35	09.53	15	41	42.8	3.99	2.13	.202	0809	9	09	18
29	9	37	35.43	15	30	16.5	4.00	2.13	.196	2995	9	07	47
30	9	40	00.88	15	18	45.5	4.01	2.14	.190	4589	9	06	16
OCT. 1	9	42	25.88	15	07	10.1	4.03	2.14	.184	5591	9	04	45
2	9	44	50.45	+14	55	30.4	4.04	2.15	2.178	5998	9	03	13
3	9	47	14.57	14	43	46.4	4.05	2.15	.172	5808	9	01	40
4	9	49	38.26	14	31	58.3	4.06	2.16	.166	5022	9	00	07
5	9	52	01.52	14	20	06.3	4.07	2.17	.160	3635	8	58	34
6	9	54	24.34	14	08	10.3	4.08	2.17	.154	1648	8	57	00
7	9	56	46.74	+13	56	10.6	4.09	2.18	2.147	9057	8	55	26
8	9	59	08.70	13	44	07.2	4.11	2.19	.141	5862	8	53	51
9	10	01	30.24	13	32	00.4	4.12	2.19	.135	2059	8	52	16
10	10	03	51.34	13	19	50.2	4.13	2.20	.128	7651	8	50	41
11	10	06	12.01	13	07	36.8	4.14	2.21	.122	2636	8	49	05
12	10	08	32.24	+12	55	20.2	4.16	2.21	2.115	7015	8	47	28
13	10	10	52.05	12	43	00.7	4.17	2.22	.109	0789	8	45	51
14	10	13	11.42	12	30	38.2	4.18	2.23	.102	3964	8	44	14
15	10	15	30.36	12	18	13.1	4.20	2.23	.095	6542	8	42	37
16	10	17	48.87	12	05	45.2	4.21	2.24	.088	8529	8	40	59
17	10	20	06.96	+11	53	14.9	4.22	2.25	2.081	9932	8	39	20
18	10	22	24.63	11	40	42.2	4.24	2.26	.075	0755	8	37	41
19	10	24	41.87	11	28	07.3	4.25	2.26	.068	1006	8	36	02
20	10	26	58.69	11	15	30.3	4.27	2.27	.061	0690	8	34	22
21	10	29	15.09	11	02	51.2	4.28	2.28	.053	9811	8	32	42
22	10	31	31.08	+10	50	10.3	4.30	2.29	2.046	8372	8	31	01
23	10	33	46.65	10	37	27.5	4.31	2.29	.039	6380	8	29	20
24	10	36	01.81	10	24	43.0	4.33	2.30	.032	3836	8	27	39
25	10	38	16.57	10	11	57.0	4.34	2.31	.025	0743	8	25	57
26	10	40	30.92	9	59	09.4	4.36	2.32	.017	7103	8	24	15
27	10	42	44.88	+9	46	20.5	4.37	2.33	2.010	2918	8	22	32
28	10	44	58.44	9	33	30.2	4.39	2.34	2.002	8193	8	20	49
29	10	47	11.61	9	20	38.8	4.41	2.35	1.995	2927	8	19	06
30	10	49	24.39	9	07	46.2	4.42	2.35	.987	7122	8	17	22
31	10	51	36.79	8	54	52.6	4.44	2.36	.980	0777	8	15	38
NOV. 1	10	53	48.81	+8	41	58.1	4.46	2.37	1.972	3895	8	13	53

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	"			AU		H	M	S
NOV.	2	10	56	00.45	+	8	29	02.8	4.48	2.38	1.964	6476	8 12 08
	3	10	58	11.71		8	16	06.8	4.49	2.39	.956	8518	8 10 23
	4	11	00	22.59		8	03	10.3	4.51	2.40	.949	0025	8 08 37
	5	11	02	33.09		7	50	13.3	4.53	2.41	.941	0994	8 06 51
	6	11	04	43.21		7	37	15.9	4.55	2.42	.933	1428	8 05 05
	7	11	06	52.94	+	7	24	18.4	4.57	2.43	1.925	1327	8 03 18
	8	11	09	02.29		7	11	20.8	4.59	2.44	.917	0693	8 01 31
	9	11	11	11.25		6	58	23.2	4.61	2.45	.908	9530	7 59 43
	10	11	13	19.83		6	45	25.8	4.63	2.46	.900	7843	7 57 55
	11	11	15	28.02		6	32	28.6	4.65	2.47	.892	5635	7 56 07
	12	11	17	35.82	+	6	19	31.8	4.67	2.48	1.884	2913	7 54 18
	13	11	19	43.23		6	06	35.6	4.69	2.49	.875	9687	7 52 29
	14	11	21	50.25		5	53	40.0	4.71	2.51	.867	5960	7 50 39
	15	11	23	56.88		5	40	45.1	4.73	2.52	.859	1743	7 48 50
	16	11	26	03.12		5	27	51.1	4.75	2.53	.850	7047	7 46 59
	17	11	28	08.96	+	5	14	58.1	4.77	2.54	1.842	1876	7 45 09
	18	11	30	14.41		5	02	06.2	4.80	2.55	.833	6238	7 43 17
	19	11	32	19.46		4	49	15.5	4.82	2.56	.825	0144	7 41 26
	20	11	34	24.11		4	36	26.2	4.84	2.58	.816	3597	7 39 34
	21	11	36	28.38		4	23	38.2	4.86	2.59	.807	6604	7 37 42
	22	11	38	32.25	+	4	10	51.7	4.89	2.60	1.798	9171	7 35 49
	23	11	40	35.73		3	58	06.8	4.91	2.61	.790	1305	7 33 56
	24	11	42	38.81		3	45	23.5	4.94	2.63	.781	3009	7 32 03
	25	11	44	41.51		3	32	42.0	4.96	2.64	.772	4289	7 30 09
	26	11	46	43.82		3	20	02.3	4.99	2.65	.763	5149	7 28 15
	27	11	48	45.74	+	3	07	24.6	5.01	2.67	1.754	5594	7 26 20
	28	11	50	47.27		2	54	48.9	5.04	2.68	.745	5628	7 24 25
	29	11	52	48.42		2	42	15.2	5.06	2.70	.736	5254	7 22 30
	30	11	54	49.17		2	29	43.8	5.09	2.71	.727	4474	7 20 34
	DEC. 1	11	56	49.52		2	17	14.7	5.12	2.72	.718	3291	7 18 38
	2	11	58	49.47	+	2	04	48.0	5.15	2.74	1.709	1709	7 16 41
	3	12	00	49.02		1	52	23.9	5.17	2.75	.699	9730	7 14 44
	4	12	02	48.16		1	40	02.4	5.20	2.77	.690	7357	7 12 47
	5	12	04	46.87		1	27	43.8	5.23	2.78	.681	4596	7 10 49
	6	12	06	45.17		1	15	28.0	5.26	2.80	.672	1449	7 08 51
	7	12	08	43.03	+	1	03	15.2	5.29	2.81	1.662	7923	7 06 52
	8	12	10	40.46		0	51	05.6	5.32	2.83	.653	4025	7 04 53
	9	12	12	37.45		0	38	59.2	5.35	2.85	.643	9763	7 02 53
	10	12	14	33.99		0	26	56.2	5.38	2.86	.634	5145	7 00 53
	11	12	16	30.08		0	14	56.7	5.41	2.88	.625	0181	6 58 53
	12	12	18	25.70	+	0	03	00.8	5.44	2.90	1.615	4882	6 56 52
	13	12	20	20.85	-	0	08	51.3	5.48	2.91	.605	9258	6 54 51
	14	12	22	15.52		0	20	39.7	5.51	2.93	.596	3320	6 52 49
	15	12	24	09.71		0	32	24.0	5.54	2.95	.586	7082	6 50 46
	16	12	26	03.40		0	44	04.3	5.58	2.97	.577	0552	6 48 44
	17	12	27	56.59	-	0	55	40.4	5.61	2.99	1.567	3742	6 46 40
	18	12	29	49.27		1	07	12.2	5.65	3.00	.557	6660	6 44 36
	19	12	31	41.44		1	18	39.7	5.68	3.02	.547	9318	6 42 32
	20	12	33	33.09		1	30	02.8	5.72	3.04	.538	1725	6 40 27
	21	12	35	24.22		1	41	21.3	5.75	3.06	.528	3889	6 38 22
	22	12	37	14.82	-	1	52	35.3	5.79	3.08	1.518	5819	6 36 16
	23	12	39	04.89		2	03	44.5	5.83	3.10	.508	7525	6 34 10
	24	12	40	54.41		2	14	49.1	5.87	3.12	.498	9011	6 32 03
	25	12	42	43.38		2	25	48.7	5.91	3.14	.489	0290	6 29 55
	26	12	44	31.80		2	36	43.5	5.95	3.16	.479	1366	6 27 47
	27	12	46	19.65	-	2	47	33.2	5.99	3.19	1.469	2246	6 25 38
	28	12	48	06.91		2	58	17.9	6.03	3.21	.459	2938	6 23 29
	29	12	49	53.59		3	08	57.3	6.07	3.23	.449	3445	6 21 19
	30	12	51	39.67		3	19	31.4	6.11	3.25	.439	3776	6 19 09
	31	12	53	25.13	-	3	30	00.1	6.15	3.27	.429	3933	6 16 58

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	O	.	..			AU		H	M	S
JAN.	1	12	55	09.95	- 3	40	23.2	6.20	3.30	1.419	3927	6	14	46
	2	12	56	54.13	3	50	40.7	6.24	3.32	.409	3762	6	12	34
	3	12	58	37.64	4	00	52.4	6.28	3.34	.399	3447	6	10	21
	4	13	00	20.48	4	10	58.1	6.33	3.37	.389	2991	6	08	07
	5	13	02	02.62	4	20	57.9	6.38	3.39	.379	2406	6	05	52
	6	13	03	44.04	- 4	30	51.5	6.42	3.42	1.369	1701	6	03	37
	7	13	05	24.74	4	40	38.8	6.47	3.44	.359	0889	6	01	21
	8	13	07	04.68	4	50	19.7	6.52	3.47	.348	9984	5	59	05
	9	13	08	43.85	4	59	54.1	6.57	3.50	.338	8999	5	56	48
	10	13	10	22.23	5	09	21.9	6.62	3.52	.328	7949	5	54	29
	11	13	11	59.79	- 5	18	42.9	6.67	3.55	1.318	6850	5	52	10
	12	13	13	36.52	5	27	57.1	6.72	3.58	.308	5716	5	49	51
	13	13	15	12.40	5	37	04.3	6.77	3.60	.298	4562	5	47	30
	14	13	16	47.41	5	46	04.4	6.83	3.63	.288	3402	5	45	08
	15	13	18	21.53	5	54	57.3	6.88	3.66	.278	2253	5	42	46
	16	13	19	54.74	- 6	03	43.0	6.93	3.69	1.268	1126	5	40	23
	17	13	21	27.02	6	12	21.4	6.99	3.72	.258	0037	5	37	58
	18	13	22	58.35	6	20	52.4	7.05	3.75	.247	8998	5	35	33
	19	13	24	28.72	6	29	15.8	7.10	3.78	.237	8023	5	33	07
	20	13	25	58.10	6	37	31.7	7.16	3.81	.227	7128	5	30	40
	21	13	27	26.48	- 6	45	40.0	7.22	3.84	1.217	6322	5	28	12
	22	13	28	53.82	6	53	40.5	7.28	3.88	.207	5619	5	25	43
	23	13	30	20.12	7	01	33.2	7.34	3.91	.197	5033	5	23	12
	24	13	31	45.34	7	09	18.0	7.41	3.94	.187	4574	5	20	41
	25	13	33	09.45	7	16	54.8	7.47	3.97	.177	4252	5	18	09
	26	13	34	32.43	- 7	24	23.5	7.53	4.01	1.167	4081	5	15	35
	27	13	35	54.26	7	31	44.1	7.60	4.04	.157	4070	5	13	00
	28	13	37	14.89	7	38	56.2	7.66	4.08	.147	4229	5	10	24
	29	13	38	34.30	7	45	59.9	7.73	4.11	.137	4571	5	07	47
	30	13	39	52.46	7	52	55.1	7.80	4.15	.127	5108	5	05	09
FEB.	31	13	41	09.33	- 7	59	41.5	7.87	4.19	1.117	5853	5	02	29
	1	13	42	24.88	8	06	19.0	7.94	4.23	.107	6823	4	59	48
	2	13	43	39.07	8	12	47.6	8.01	4.26	.097	8033	4	57	06
	3	13	44	51.87	8	19	07.1	8.08	4.30	.087	9500	4	54	22
	4	13	46	03.22	8	25	17.3	8.16	4.34	.078	1243	4	51	37
	5	13	47	13.10	- 8	31	18.1	8.23	4.38	1.068	3281	4	48	50
	6	13	48	21.47	8	37	09.3	8.31	4.42	.058	5638	4	46	02
	7	13	49	28.28	8	42	50.9	8.38	4.46	.048	8330	4	43	12
	8	13	50	33.49	8	48	22.7	8.46	4.50	.039	1384	4	40	21
	9	13	51	37.06	8	53	44.6	8.54	4.55	.029	4818	4	37	28
	10	13	52	38.96	- 8	58	56.4	8.62	4.59	1.019	8655	4	34	33
	11	13	53	39.14	9	03	58.0	8.70	4.63	.010	2920	4	31	37
	12	13	54	37.57	9	08	49.4	8.79	4.68	1.000	7633	4	28	39
	13	13	55	34.21	9	13	30.5	8.87	4.72	0.991	2816	4	25	39
	14	13	56	29.03	9	18	01.1	8.96	4.77	.981	8491	4	22	37
	15	13	57	21.97	- 9	22	21.2	9.04	4.81	0.972	4681	4	19	34
	16	13	58	13.01	9	26	30.6	9.13	4.86	.963	1408	4	16	28
	17	13	59	02.10	9	30	29.3	9.22	4.91	.953	8693	4	13	21
	18	13	59	49.20	9	34	17.2	9.31	4.95	.944	6560	4	10	12
	19	14	00	34.28	9	37	54.1	9.40	5.00	.935	5029	4	07	00
	20	14	01	17.29	- 9	41	20.1	9.49	5.05	0.926	4121	4	03	47
	21	14	01	58.19	9	44	35.0	9.59	5.10	.917	3859	4	00	31
	22	14	02	36.94	9	47	38.7	9.68	5.15	.908	4264	3	57	13
	23	14	03	13.49	9	50	31.1	9.78	5.20	.899	5354	3	53	54
	24	14	03	47.80	9	53	12.0	9.87	5.25	.890	7152	3	50	31
MAR.	25	14	04	19.81	- 9	55	41.3	9.97	5.31	0.881	9678	3	47	07
	26	14	04	49.49	9	57	58.8	10.07	5.36	.873	2954	3	43	40
	27	14	05	16.78	10	00	04.5	10.17	5.41	.864	7004	3	40	11
	28	14	05	41.64	10	01	58.1	10.27	5.47	.856	1853	3	36	40
	1	14	06	04.01	10	03	39.5	10.37	5.52	.847	7526	3	33	06
	2	14	06	23.86	-10	05	08.6	10.48	5.58	0.839	4052	3	29	29

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	O	I	''			AU		H	M	S
MAR.	3	14 06	41.11	-10 06	25.2		10.58	5.63	0.831	1459	3	25	50
	4	14 06	55.73	10 07	29.1		10.69	5.69	.822	9782	3	22	08
	5	14 07	07.67	10 08	20.2		10.79	5.74	.814	9050	3	18	24
	6	14 07	16.89	10 08	58.4		10.90	5.80	.806	9296	3	14	37
	7	14 07	23.34	10 09	23.6		11.01	5.86	.799	0556	3	10	47
	8	14 07	26.97	-10 09	35.6		11.11	5.91	0.791	2863	3	06	54
	9	14 07	27.77	10 09	34.3		11.22	5.97	.783	6251	3	02	59
	10	14 07	25.68	10 09	19.7		11.33	6.03	.776	0757	2	59	00
	11	14 07	20.69	10 08	51.7		11.44	6.09	.768	6414	2	54	59
	12	14 07	12.78	10 08	10.3		11.55	6.15	.761	3256	2	50	55
	13	14 07	01.91	-10 07	15.4		11.66	6.21	0.754	1321	2	46	48
	14	14 06	48.07	10 06	07.1		11.77	6.26	.747	0640	2	42	38
	15	14 06	31.25	10 04	45.3		11.88	6.32	.740	1249	2	38	25
	16	14 06	11.44	10 03	10.1		11.99	6.38	.733	3182	2	34	09
	17	14 05	48.64	10 01	21.5		12.10	6.44	.726	6473	2	29	50
	18	14 05	22.83	- 9 59	19.5		12.21	6.50	0.720	1154	2	25	28
	19	14 04	54.03	9 57	04.3		12.32	6.56	.713	7258	2	21	03
	20	14 04	22.24	9 54	35.9		12.43	6.62	.707	4819	2	16	36
	21	14 03	47.48	9 51	54.4		12.54	6.67	.701	3865	2	12	05
	22	14 03	09.76	9 49	00.0		12.65	6.73	.695	4429	2	07	31
	23	14 02	29.10	- 9 45	52.6		12.75	6.79	0.689	6539	2	02	55
	24	14 01	45.52	9 42	32.6		12.86	6.84	.684	0224	1	58	15
	25	14 00	59.05	9 38	59.9		12.96	6.90	.678	5513	1	53	33
	26	14 00	09.74	9 35	14.8		13.06	6.95	.673	2436	1	48	48
	27	13 59	17.61	9 31	17.5		13.16	7.00	.668	1021	1	44	00
	28	13 58	22.72	- 9 27	08.1		13.26	7.06	0.663	1298	1	39	09
	29	13 57	25.11	9 22	46.9		13.36	7.11	.658	3298	1	34	16
	30	13 56	24.84	9 18	14.2		13.45	7.16	.653	7052	1	29	20
	31	13 55	21.98	9 13	30.3		13.54	7.21	.649	2592	1	24	21
APR.	1	13 54	16.60	9 08	35.5		13.63	7.26	.644	9948	1	19	20
	2	13 53	08.78	- 9 03	30.2		13.72	7.30	0.640	9153	1	14	17
	3	13 51	58.61	8 58	14.8		13.80	7.35	.637	0235	1	09	11
	4	13 50	46.20	8 52	49.9		13.89	7.39	.633	3224	1	04	03
	5	13 49	31.65	8 47	15.9		13.96	7.43	.629	8145	0	58	53
	6	13 48	15.09	8 41	33.5		14.04	7.47	.626	5024	0	53	41
	7	13 46	56.65	- 8 35	43.3		14.11	7.51	0.623	3885	0	48	27
	8	13 45	36.46	8 29	46.0		14.17	7.54	.620	4747	0	43	11
	9	13 44	14.67	8 23	42.3		14.24	7.58	.617	7626	0	37	54
	10	13 42	51.42	8 17	33.0		14.29	7.61	.615	2542	0	32	35
	11	13 41	26.89	8 11	18.9		14.35	7.64	.612	9505	0	27	16
	12	13 40	01.22	- 8 05	00.8		14.40	7.66	0.610	8526	0	21	55
	13	13 38	34.59	7 58	39.5		14.44	7.69	.608	9613	0	16	33
	14	13 37	07.16	7 52	16.1		14.48	7.71	.607	2769	0	11	10
	15	13 35	39.11	7 45	51.2		14.52	7.73	.605	7997	0	05	46
	16	13 34	10.62	7 39	26.0		14.55	7.74	.604	5297	0	00	23
	17	13 32	41.85	- 7 33	01.2		14.57	7.76	0.603	4661	23	49	34
	18	13 31	12.98	7 26	37.7		14.59	7.77	.602	6084	23	44	10
	19	13 29	44.18	7 20	16.5		14.61	7.77	.601	9555	23	38	46
	20	13 28	15.63	7 13	58.4		14.62	7.78	.601	5063	23	33	23
	21	13 26	47.49	7 07	44.4		14.63	7.78	.601	2589	23	28	00
	22	13 25	19.92	- 7 01	35.1		14.63	7.78	0.601	2119	23	22	38
	23	13 23	53.09	6 55	31.5		14.62	7.78	.601	3635	23	17	16
	24	13 22	27.15	6 49	34.5		14.61	7.78	.601	7117	23	11	56
	25	13 21	02.26	6 43	44.6		14.60	7.77	.602	2545	23	06	37
	26	13 19	38.56	6 38	02.6		14.58	7.76	.602	9900	23	01	19
	27	13 18	16.20	- 6 32	29.5		14.56	7.75	0.603	9158	22	56	03
	28	13 16	55.30	6 27	05.8		14.53	7.74	.605	0300	22	50	48
	29	13 15	36.02	6 21	52.3		14.50	7.72	.606	3303	22	45	35
	30	13 14	18.48	6 16	49.6		14.47	7.70	.607	8140	22	40	24
MAY	1	13 13	02.80	6 11	58.5		14.43	7.68	.609	4788	22	35	14
	2	13 11	49.12	- 6 07	19.5		14.39	7.66	0.611	3217	22	30	07

SECOND TRANSIT, APR. 16 23 54 58

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"			AU		H	M	S
MAY	3	13	10	37.56	-	6	02 53.3	14.34	7.63	0.613	3398	22	25	02
	4	13	09	28.22		5	58 40.5	14.29	7.60	.615	5298	22	20	00
	5	13	08	21.21		5	54 41.7	14.23	7.57	.617	8884	22	14	59
	6	13	07	16.64		5	50 57.4	14.17	7.54	.620	4122	22	10	02
	7	13	06	14.60		5	47 28.1	14.11	7.51	.623	0975	22	05	06
	8	13	05	15.17	-	5	44 14.3	14.05	7.48	0.625	9404	22	00	14
	9	13	04	18.44		5	41 16.3	13.98	7.44	.628	9373	21	55	24
	10	13	03	24.47		5	38 34.6	13.91	7.40	.632	0841	21	50	37
	11	13	02	33.32		5	36 09.4	13.84	7.37	.635	3767	21	45	53
	12	13	01	45.06		5	34 01.2	13.77	7.33	.638	8109	21	41	12
	13	13	00	59.73	-	5	32 09.9	13.69	7.29	0.642	3824	21	36	33
	14	13	00	17.36		5	30 36.0	13.61	7.24	.646	0870	21	31	58
	15	12	59	37.99		5	29 19.5	13.53	7.20	.649	9203	21	27	26
	16	12	59	01.64		5	28 20.4	13.45	7.16	.653	8779	21	22	56
	17	12	58	28.33		5	27 38.9	13.37	7.11	.657	9556	21	18	30
	18	12	57	58.06	-	5	27 14.9	13.28	7.07	0.662	1490	21	14	07
	19	12	57	30.84		5	27 08.4	13.20	7.02	.666	4537	21	09	46
	20	12	57	06.67		5	27 19.4	13.11	6.98	.670	8660	21	05	29
	21	12	56	45.53		5	27 47.6	13.02	6.93	.675	3817	21	01	15
	22	12	56	27.43		5	28 33.1	12.93	6.88	.679	9969	20	57	04
	23	12	56	12.33	-	5	29 35.6	12.84	6.84	0.684	7081	20	52	55
	24	12	56	00.23		5	30 55.0	12.75	6.79	.689	5121	20	48	50
	25	12	55	51.10		5	32 31.2	12.66	6.74	.694	4053	20	44	47
	26	12	55	44.91		5	34 23.8	12.57	6.69	.699	3849	20	40	48
	27	12	55	41.65		5	36 32.8	12.48	6.64	.704	4474	20	36	51
	28	12	55	41.27	-	5	38 58.0	12.39	6.60	0.709	5904	20	32	57
	29	12	55	43.77		5	41 39.0	12.30	6.55	.714	8106	20	29	06
	30	12	55	49.12		5	44 35.9	12.21	6.50	.720	1053	20	25	18
	31	12	55	57.28		5	47 48.4	12.12	6.45	.725	4715	20	21	33
JUNE	1	12	56	08.24		5	51 16.3	12.03	6.40	.730	9061	20	17	50
	2	12	56	21.96	-	5	54 59.3	11.94	6.36	0.736	4066	20	14	10
	3	12	56	38.42		5	58 57.5	11.85	6.31	.741	9697	20	10	33
	4	12	56	57.58		6	03 10.4	11.76	6.26	.747	5929	20	06	58
	5	12	57	19.43		6	07 37.9	11.67	6.21	.753	2732	20	03	26
	6	12	57	43.91		6	12 19.9	11.59	6.17	.759	0079	19	59	57
	7	12	58	11.00	-	6	17 15.9	11.50	6.12	0.764	7942	19	56	30
	8	12	58	40.67		6	22 25.9	11.41	6.07	.770	6295	19	53	06
	9	12	59	12.88		6	27 49.6	11.33	6.03	.776	5110	19	49	44
	10	12	59	47.59		6	33 26.8	11.24	5.98	.782	4358	19	46	25
	11	13	00	24.76		6	39 17.1	11.15	5.94	.788	4014	19	43	08
	12	13	01	04.35	-	6	45 20.3	11.07	5.89	0.794	4051	19	39	53
	13	13	01	46.33		6	51 36.1	10.99	5.85	.800	4444	19	36	41
	14	13	02	30.64		6	58 04.1	10.90	5.80	.806	5168	19	33	31
	15	13	03	17.25		7	04 44.2	10.82	5.76	.812	6198	19	30	23
	16	13	04	06.11		7	11 36.0	10.74	5.72	.818	7514	19	27	18
	17	13	04	57.19	-	7	18 39.1	10.66	5.67	0.824	9092	19	24	14
	18	13	05	50.44		7	25 53.4	10.58	5.63	.831	0915	19	21	13
	19	13	06	45.83		7	33 18.4	10.50	5.59	.837	2962	19	18	14
	20	13	07	43.30		7	40 53.8	10.43	5.55	.843	5220	19	15	17
	21	13	08	42.83		7	48 39.5	10.35	5.51	.849	7674	19	12	22
	22	13	09	44.36	-	7	56 35.0	10.27	5.47	0.856	0308	19	09	29
	23	13	10	47.87		8	04 40.0	10.20	5.43	.862	3114	19	06	38
	24	13	11	53.31		8	12 54.3	10.12	5.39	.868	6077	19	03	48
	25	13	13	00.66		8	21 17.7	10.05	5.35	.874	9188	19	01	01
	26	13	14	09.88		8	29 49.8	9.98	5.31	.881	2435	18	58	15
	27	13	15	20.94	-	8	38 30.5	9.91	5.27	0.887	5808	18	55	32
	28	13	16	33.83		8	47 19.4	9.84	5.24	.893	9297	18	52	50
	29	13	17	48.51		8	56 16.5	9.77	5.20	.900	2890	18	50	09
	30	13	19	04.96		9	05 21.4	9.70	5.16	.906	6574	18	47	31
JULY	1	13	20	23.16		9	14 33.9	9.63	5.13	.913	0340	18	44	54
	2	13	21	43.08	-	9	23 54.0	9.56	5.09	0.919	4177	18	42	19

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.			
		H	M	S	°	'	"	"	"	AU		H	M	S	
JULY	3	13	23	04.70	-	9	33	21.2	9.50	5.06	0.925	8072	18	39	46
	4	13	24	28.00		9	42	55.5	9.43	5.02	.932	2014	18	37	14
	5	13	25	52.95		9	52	36.5	9.37	4.99	.938	5993	18	34	44
	6	13	27	19.54		10	02	24.2	9.31	4.95	.944	9996	18	32	16
	7	13	28	47.74		10	12	18.2	9.24	4.92	.951	4011	18	29	49
	8	13	30	17.54	-	10	22	18.3	9.18	4.89	0.957	8028	18	27	23
	9	13	31	48.90		10	32	24.4	9.12	4.85	.964	2033	18	25	00
	10	13	33	21.80		10	42	36.1	9.06	4.82	.970	6013	18	22	37
	11	13	34	56.22		10	52	53.3	9.00	4.79	.976	9959	18	20	17
	12	13	36	32.15		11	03	15.6	8.94	4.76	.983	3858	18	17	57
	13	13	38	09.54	-	11	13	42.8	8.88	4.73	0.989	7700	18	15	40
	14	13	39	48.40		11	24	14.7	8.83	4.70	0.996	1474	18	13	23
	15	13	41	28.68		11	34	51.0	8.77	4.67	1.002	5176	18	11	08
	16	13	43	10.38		11	45	31.5	8.72	4.64	.008	8793	18	08	55
	17	13	44	53.47		11	56	15.9	8.66	4.61	.015	2323	18	06	42
	18	13	46	37.92	-	12	07	03.9	8.61	4.58	1.021	5761	18	04	31
	19	13	48	23.73		12	17	55.3	8.56	4.55	.027	9103	18	02	22
	20	13	50	10.86		12	28	49.9	8.50	4.53	.034	2346	18	00	14
	21	13	51	59.31		12	39	47.5	8.45	4.50	.040	5488	17	58	07
	22	13	53	49.04		12	50	47.7	8.40	4.47	.046	8527	17	56	01
	23	13	55	40.06	-	13	01	50.3	8.35	4.44	1.053	1463	17	53	57
	24	13	57	32.34		13	12	55.2	8.30	4.42	.059	4294	17	51	53
	25	13	59	25.88		13	24	02.2	8.25	4.39	.065	7019	17	49	52
	26	14	01	20.66		13	35	11.0	8.20	4.37	.071	9636	17	47	51
	27	14	03	16.69		13	46	21.4	8.16	4.34	.078	2143	17	45	51
	28	14	05	13.95	-	13	57	33.3	8.11	4.32	1.084	4536	17	43	53
	29	14	07	12.43		14	08	46.5	8.06	4.29	.090	6815	17	41	56
	30	14	09	12.13		14	20	00.8	8.02	4.27	.096	8975	17	40	00
	31	14	11	13.04		14	31	15.9	7.97	4.24	.103	1015	17	38	06
AUG.	1	14	13	15.15		14	42	31.8	7.93	4.22	.109	2930	17	36	12
2	14	15	18.46	-	14	53	48.2	7.88	4.20	1.115	4715	17	34	20	
3	14	17	22.96		15	05	04.9	7.84	4.17	.121	6370	17	32	29	
4	14	19	28.64		15	16	21.7	7.80	4.15	.127	7886	17	30	39	
5	14	21	35.49		15	27	38.4	7.76	4.13	.133	9262	17	28	50	
6	14	23	43.51		15	38	54.8	7.71	4.11	.140	0490	17	27	03	
7	14	25	52.69	-	15	50	10.7	7.67	4.08	1.146	1565	17	25	16	
8	14	28	03.02		16	01	25.9	7.63	4.06	.152	2482	17	23	31	
9	14	30	14.48		16	12	40.0	7.59	4.04	.158	3234	17	21	47	
10	14	32	27.08		16	23	52.9	7.55	4.02	.164	3816	17	20	04	
11	14	34	40.81		16	35	04.3	7.51	4.00	.170	4226	17	18	22	
12	14	36	55.64	-	16	46	14.1	7.48	3.98	1.176	4461	17	16	41	
13	14	39	11.58		16	57	21.9	7.44	3.96	.182	4517	17	15	02	
14	14	41	28.62		17	08	27.6	7.40	3.94	.188	4395	17	13	23	
15	14	43	46.73		17	19	30.9	7.36	3.92	.194	4095	17	11	45	
16	14	46	05.92		17	30	31.6	7.33	3.90	.200	3618	17	10	09	
17	14	48	26.17	-	17	41	29.4	7.29	3.88	1.206	2966	17	08	33	
18	14	50	47.46		17	52	24.1	7.25	3.86	.212	2140	17	06	59	
19	14	53	09.81		18	03	15.4	7.22	3.84	.218	1144	17	05	26	
20	14	55	33.18		18	14	03.2	7.18	3.82	.223	9980	17	03	53	
21	14	57	57.60		18	24	47.3	7.15	3.81	.229	8654	17	02	22	
22	15	00	23.04	-	18	35	27.3	7.12	3.79	1.235	7165	17	00	52	
23	15	02	49.50		18	46	03.2	7.08	3.77	.241	5515	16	59	22	
24	15	05	16.99		18	56	34.7	7.05	3.75	.247	3709	16	57	54	
25	15	07	45.51		19	07	01.6	7.02	3.73	.253	1749	16	56	27	
26	15	10	15.04		19	17	23.8	6.99	3.72	.258	9632	16	55	01	
27	15	12	45.60	-	19	27	40.9	6.95	3.70	1.264	7363	16	53	36	
28	15	15	17.16		19	37	52.9	6.92	3.68	.270	4941	16	52	11	
29	15	17	49.74		19	47	59.6	6.89	3.67	.276	2367	16	50	48	
30	15	20	23.33		19	58	00.6	6.86	3.65	.281	9642	16	49	26	
31	15	22	57.92		20	07	55.9	6.83	3.63	.287	6764	16	48	05	
SEPT.	1	15	25	33.52	-	20	17	45.1	6.80	3.62	1.293	3734	16	46	45

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.O.	E.T.
	H	M	S	°	'	''	''	''	AU	H M S
SEPT.	2	15 28	10.10	-20 27	28.2		6.77	3.60	1.299 0550	16 45 25
	3	15 30	47.69	20 37	04.8		6.74	3.59	.304 7208	16 44 07
	4	15 33	26.25	20 46	34.8		6.71	3.57	.310 3707	16 42 50
	5	15 36	05.80	20 55	57.9		6.68	3.56	.316 0043	16 41 34
	6	15 38	46.32	21 05	13.9		6.65	3.54	.321 6214	16 40 18
	7	15 41	27.80	-21 14	22.5		6.63	3.53	1.327 2219	16 39 04
	8	15 44	10.25	21 23	23.5		6.60	3.51	.332 8052	16 37 51
	9	15 46	53.65	21 32	16.8		6.57	3.50	.338 3715	16 36 38
	10	15 49	37.99	21 41	02.0		6.54	3.48	.343 9207	16 35 27
	11	15 52	23.25	21 49	39.0		6.52	3.47	.349 4532	16 34 16
	12	15 55	09.43	-21 58	07.5		6.49	3.45	1.354 9688	16 33 06
	13	15 57	56.52	22 06	27.3		6.46	3.44	.360 4680	16 31 58
	14	16 00	44.49	22 14	38.2		6.44	3.43	.365 9512	16 30 50
	15	16 03	33.34	22 22	39.9		6.41	3.41	.371 4188	16 29 43
	16	16 06	23.06	22 30	32.3		6.39	3.40	.376 8712	16 28 36
	17	16 09	13.65	-22 38	15.0		6.36	3.39	1.382 3089	16 27 31
	18	16 12	05.08	22 45	48.0		6.34	3.37	.387 7323	16 26 27
	19	16 14	57.36	22 53	10.9		6.31	3.36	.393 1419	16 25 23
	20	16 17	50.47	23 00	23.6		6.29	3.35	.398 5382	16 24 20
	21	16 20	44.42	23 07	26.0		6.26	3.33	.403 9214	16 23 18
	22	16 23	39.19	-23 14	17.8		6.24	3.32	1.409 2921	16 22 17
	23	16 26	34.78	23 20	58.8		6.22	3.31	.414 6505	16 21 17
	24	16 29	31.17	23 27	28.9		6.19	3.30	.419 9970	16 20 17
	25	16 32	28.36	23 33	47.8		6.17	3.28	.425 3316	16 19 18
	26	16 35	26.34	23 39	55.5		6.15	3.27	.430 6550	16 18 20
	27	16 38	25.11	-23 45	51.6		6.12	3.26	1.435 9670	16 17 23
	28	16 41	24.64	23 51	36.1		6.10	3.25	.441 2679	16 16 27
	29	16 44	24.93	23 57	08.7		6.08	3.24	.446 5578	16 15 31
	30	16 47	25.97	24 02	29.4		6.06	3.22	.451 8368	16 14 36
	31	16 50	27.75	24 07	37.7		6.04	3.21	.457 1048	16 13 42
OCT.	2	16 53	30.25	-24 12	33.7		6.01	3.20	1.462 3617	16 12 48
	3	16 56	33.47	24 17	17.0		5.99	3.19	.467 6073	16 11 55
	4	16 59	37.39	24 21	47.6		5.97	3.18	.472 8414	16 11 03
	5	17 02	42.00	24 26	05.2		5.95	3.17	.478 0637	16 10 12
	6	17 05	47.28	24 30	09.7		5.93	3.16	.483 2745	16 09 21
	7	17 08	53.23	-24 34	00.8		5.91	3.14	1.488 4731	16 08 31
	8	17 11	59.80	24 37	38.6		5.89	3.13	.493 6599	16 07 41
	9	17 15	07.00	24 41	02.7		5.87	3.12	.498 8352	16 06 52
	10	17 18	14.79	24 44	13.1		5.85	3.11	.503 9988	16 06 04
	11	17 21	23.16	24 47	09.5		5.83	3.10	.509 1514	16 05 16
	12	17 24	32.08	-24 49	52.0		5.81	3.09	1.514 2932	16 04 29
	13	17 27	41.53	24 52	20.1		5.79	3.08	.519 4249	16 03 42
	14	17 30	51.51	24 54	34.0		5.77	3.07	.524 5467	16 02 56
	15	17 34	01.98	24 56	33.4		5.75	3.06	.529 6592	16 02 10
	16	17 37	12.93	24 58	18.1		5.73	3.05	.534 7630	16 01 25
	17	17 40	24.35	-24 59	48.2		5.71	3.04	1.539 8583	16 00 40
	18	17 43	36.23	25 01	03.4		5.69	3.03	.544 9459	15 59 56
	19	17 46	48.53	25 02	03.7		5.67	3.02	.550 0262	15 59 12
	20	17 50	01.26	25 02	49.0		5.65	3.01	.555 0995	15 58 28
	21	17 53	14.39	25 03	19.2		5.64	3.00	.560 1662	15 57 45
	22	17 56	27.90	-25 03	34.2		5.62	2.99	1.565 2268	15 57 02
	23	17 59	41.79	25 03	34.0		5.60	2.98	.570 2817	15 56 20
	24	18 02	56.02	25 03	18.4		5.58	2.97	.575 3311	15 55 38
	25	18 06	10.59	25 02	47.4		5.56	2.96	.580 3752	15 54 56
	26	18 09	25.48	25 02	00.9		5.55	2.95	.585 4143	15 54 15
	27	18 12	40.67	-25 00	58.9		5.53	2.94	1.590 4487	15 53 34
	28	18 15	56.14	24 59	41.3		5.51	2.93	.595 4784	15 52 53
	29	18 19	11.88	24 58	08.0		5.49	2.92	.600 5033	15 52 12
	30	18 22	27.87	24 56	18.9		5.48	2.91	.605 5236	15 51 32
	31	18 25	44.09	24 54	14.1		5.46	2.91	.610 5389	15 50 51
NOV.	1	18 29	00.52	-24 51	53.4		5.44	2.90	1.615 5491	15 50 12

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"	"	"	AU		H	M	S
NOV.	2	18	32	17.16	-24	49	16.8	5.43	2.89	1.620	5541	15	49	32
	3	18	35	33.97	24	46	24.3	5.41	2.88	.625	5537	15	48	52
	4	18	38	50.95	24	43	15.9	5.39	2.87	.630	5477	15	48	13
	5	18	42	08.06	24	39	51.6	5.38	2.86	.635	5360	15	47	33
	6	18	45	25.28	24	36	11.4	5.36	2.85	.640	5187	15	46	54
	7	18	48	42.59	-24	32	15.3	5.34	2.84	1.645	4958	15	46	15
	8	18	51	59.96	24	28	03.3	5.33	2.84	.650	4678	15	45	36
	9	18	55	17.37	24	23	35.4	5.31	2.83	.655	4349	15	44	57
	10	18	58	34.80	24	18	51.6	5.30	2.82	.660	3974	15	44	17
	11	19	01	52.23	24	13	51.9	5.28	2.81	.665	3557	15	43	38
	12	19	05	09.64	-24	08	36.4	5.26	2.80	1.670	3104	15	42	59
	13	19	08	27.02	24	03	05.2	5.25	2.79	.675	2616	15	42	20
	14	19	11	44.35	23	57	18.2	5.23	2.79	.680	2101	15	41	41
	15	19	15	01.61	23	51	15.5	5.22	2.78	.685	1561	15	41	01
	16	19	18	18.79	23	44	57.2	5.20	2.77	.690	1002	15	40	22
	17	19	21	35.86	-23	38	23.3	5.19	2.76	1.695	0426	15	39	42
	18	19	24	52.83	23	31	33.9	5.17	2.75	.699	9837	15	39	03
	19	19	28	09.67	23	24	29.1	5.16	2.74	.704	9240	15	38	23
	20	19	31	26.36	23	17	09.0	5.14	2.74	.709	8638	15	37	43
	21	19	34	42.90	23	09	33.7	5.13	2.73	.714	8032	15	37	03
	22	19	37	59.26	-23	01	43.2	5.11	2.72	1.719	7427	15	36	23
	23	19	41	15.44	22	53	37.6	5.10	2.71	.724	6824	15	35	42
	24	19	44	31.43	22	45	17.1	5.08	2.71	.729	6225	15	35	01
	25	19	47	47.20	22	36	41.6	5.07	2.70	.734	5629	15	34	21
	26	19	51	02.76	22	27	51.4	5.06	2.69	.739	5039	15	33	39
	27	19	54	18.08	-22	18	46.4	5.04	2.68	1.744	4451	15	32	58
	28	19	57	33.17	22	09	26.9	5.03	2.68	.749	3865	15	32	16
	29	20	00	48.00	21	59	52.8	5.01	2.67	.754	3279	15	31	35
	30	20	04	02.58	21	50	04.3	5.00	2.66	.759	2689	15	30	53
	DEC. 1	20	07	16.89	21	40	01.6	4.98	2.65	.764	2093	15	30	10
	2	20	10	30.91	-21	29	44.7	4.97	2.65	1.769	1488	15	29	27
	3	20	13	44.64	21	19	13.9	4.96	2.64	.774	0873	15	28	44
	4	20	16	58.06	21	08	29.3	4.94	2.63	.779	0244	15	28	01
	5	20	20	11.15	20	57	31.1	4.93	2.62	.783	9602	15	27	17
	6	20	23	23.90	20	46	19.4	4.92	2.62	.788	8948	15	26	33
	7	20	26	36.29	-20	34	54.3	4.90	2.61	1.793	8281	15	25	49
	8	20	29	48.33	20	23	16.1	4.89	2.60	.798	7606	15	25	04
	9	20	32	59.99	20	11	24.9	4.88	2.59	.803	6924	15	24	19
	10	20	36	11.27	19	59	20.8	4.86	2.59	.808	6237	15	23	34
	11	20	39	22.16	19	47	04.1	4.85	2.58	.813	5550	15	22	48
	12	20	42	32.66	-19	34	34.9	4.84	2.57	1.818	4864	15	22	01
	13	20	45	42.77	19	21	53.3	4.82	2.57	.823	4181	15	21	15
	14	20	48	52.47	19	08	59.6	4.81	2.56	.828	3507	15	20	28
	15	20	52	01.76	18	55	53.9	4.80	2.55	.833	2843	15	19	40
	16	20	55	10.64	18	42	36.5	4.78	2.55	.838	2191	15	18	52
	17	20	58	19.10	-18	29	07.5	4.77	2.54	1.843	1555	15	18	04
	18	21	01	27.14	18	15	27.2	4.76	2.53	.848	0937	15	17	15
	19	21	04	34.76	18	01	35.6	4.75	2.53	.853	0340	15	16	26
	20	21	07	41.96	17	47	33.0	4.73	2.52	.857	9764	15	15	36
	21	21	10	48.72	17	33	19.6	4.72	2.51	.862	9212	15	14	46
	22	21	13	55.06	-17	18	55.5	4.71	2.51	1.867	8683	15	13	56
	23	21	17	00.97	17	04	21.0	4.70	2.50	.872	8180	15	13	05
	24	21	20	06.46	16	49	36.1	4.68	2.49	.877	7699	15	12	14
	25	21	23	11.52	16	34	41.1	4.67	2.49	.882	7239	15	11	22
	26	21	26	16.16	16	19	36.2	4.66	2.48	.887	6799	15	10	30
	27	21	29	20.38	-16	04	21.5	4.65	2.47	1.892	6374	15	09	37
	28	21	32	24.18	15	48	57.2	4.63	2.47	.897	5961	15	08	44
	29	21	35	27.57	15	33	23.6	4.62	2.46	.902	5556	15	07	51
	30	21	38	30.54	15	17	40.8	4.61	2.45	.907	5154	15	06	57
	31	21	41	33.09	15	01	49.1	4.60	2.45	.912	4753	15	06	03

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.			
		H	M	S	° ' "			"	"	AU		H	M	S	
JAN.	1	21	44	35.22	-14	45	48.7	4.59	2.44	1.917	4346	15	05	08	
	2	21	47	36.92	14	29	39.7	4.57	2.43	.922	3934	15	04	13	
	3	21	50	38.20	14	13	22.5	4.56	2.43	.927	3514	15	03	17	
	4	21	53	39.05	13	56	57.2	4.55	2.42	.932	3083	15	02	22	
	5	21	56	39.48	13	40	24.1	4.54	2.42	.937	2643	15	01	25	
	6	21	59	39.48	-13	23	43.4	4.53	2.41	1.942	2192	15	00	28	
	7	22	02	39.07	13	06	55.2	4.52	2.40	.947	1734	14	59	31	
	8	22	05	38.24	12	49	59.8	4.50	2.40	.952	1268	14	58	34	
	9	22	08	36.99	12	32	57.4	4.49	2.39	.957	0795	14	57	36	
	10	22	11	35.33	12	15	48.2	4.48	2.39	.962	0316	14	56	37	
	11	22	14	33.27	-11	58	32.5	4.47	2.38	1.966	9833	14	55	38	
	12	22	17	30.81	11	41	10.4	4.46	2.37	.971	9345	14	54	39	
	13	22	20	27.95	11	23	42.2	4.45	2.37	.976	8857	14	53	39	
	14	22	23	24.70	11	06	08.0	4.44	2.36	.981	8369	14	52	39	
	15	22	26	21.07	10	48	28.1	4.43	2.36	.986	7882	14	51	39	
	16	22	29	17.05	-10	30	42.7	4.42	2.35	1.991	7397	14	50	38	
	17	22	32	12.65	10	12	52.1	4.40	2.34	1.996	6916	14	49	37	
	18	22	35	07.89	9	54	56.3	4.39	2.34	2.001	6437	14	48	36	
	19	22	38	02.76	9	36	55.6	4.38	2.33	.006	5964	14	47	34	
	20	22	40	57.28	9	18	50.1	4.37	2.33	.011	5492	14	46	32	
	21	22	43	51.45	-	9	00	40.2	4.36	2.32	2.016	5022	14	45	29
	22	22	46	45.29	8	42	25.8	4.35	2.32	.021	4549	14	44	26	
	23	22	49	38.81	8	24	07.2	4.34	2.31	.026	4072	14	43	23	
	24	22	52	32.01	8	05	44.7	4.33	2.30	.031	3585	14	42	20	
	25	22	55	24.90	7	47	18.3	4.32	2.30	.036	3082	14	41	16	
	26	22	58	17.49	-	7	28	48.3	4.31	2.29	2.041	2562	14	40	12
	27	23	01	09.79	7	10	14.9	4.30	2.29	.046	2015	14	39	07	
	28	23	04	01.80	6	51	38.3	4.29	2.28	.051	1438	14	38	03	
	29	23	06	53.52	6	32	58.7	4.28	2.28	.056	0826	14	36	58	
	30	23	09	44.96	6	14	16.4	4.27	2.27	.061	0174	14	35	52	
FEB.	31	23	12	36.13	-	5	55	31.5	4.26	2.27	2.065	9477	14	34	47
	1	23	15	27.02	5	36	44.2	4.25	2.26	.070	8731	14	33	41	
	2	23	18	17.66	5	17	54.8	4.24	2.25	.075	7937	14	32	35	
	3	23	21	08.03	4	59	03.5	4.23	2.25	.080	7091	14	31	29	
	4	23	23	58.16	4	40	10.4	4.22	2.24	.085	6191	14	30	22	
	5	23	26	48.04	-	4	21	15.8	4.21	2.24	2.090	5238	14	29	15
	6	23	29	37.70	4	02	19.8	4.20	2.23	.095	4229	14	28	08	
	7	23	32	27.12	3	43	22.6	4.19	2.23	.100	3165	14	27	01	
	8	23	35	16.33	3	24	24.5	4.18	2.22	.105	2045	14	25	54	
	9	23	38	05.32	3	05	25.7	4.17	2.22	.110	0868	14	24	46	
	10	23	40	54.11	-	2	46	26.3	4.16	2.21	2.114	9636	14	23	38
	11	23	43	42.70	2	27	26.5	4.15	2.21	.119	8349	14	22	30	
	12	23	46	31.09	2	08	26.5	4.14	2.20	.124	7004	14	21	22	
	13	23	49	19.31	1	49	26.5	4.13	2.20	.129	5606	14	20	14	
	14	23	52	07.35	1	30	26.8	4.12	2.19	.134	4152	14	19	05	
	15	23	54	55.22	-	1	11	27.4	4.11	2.19	2.139	2644	14	17	56
	16	23	57	42.94	0	52	28.6	4.10	2.18	.144	1081	14	16	48	
	17	0	00	30.51	0	33	30.4	4.09	2.18	.148	9460	14	15	39	
	18	0	03	17.95	-	0	14	33.1	4.08	2.17	.153	7781	14	14	29
	19	0	06	05.27	+	0	04	23.2	4.07	2.17	.158	6039	14	13	20
	20	0	08	52.47	+	0	23	18.4	4.06	2.16	2.163	4230	14	12	11
	21	0	11	39.58	0	42	12.3	4.06	2.16	.168	2349	14	11	01	
	22	0	14	26.60	1	01	04.7	4.05	2.15	.173	0392	14	09	52	
	23	0	17	13.53	1	19	55.4	4.04	2.15	.177	8350	14	08	42	
	24	0	20	00.38	1	38	44.3	4.03	2.14	.182	6220	14	07	33	
	25	0	22	47.17	+	1	57	31.2	4.02	2.14	2.187	3994	14	06	23
	26	0	25	33.88	2	16	15.9	4.01	2.13	.192	1665	14	05	13	
	27	0	28	20.55	2	34	58.3	4.00	2.13	.196	9228	14	04	03	
	28	0	31	07.15	2	53	38.1	3.99	2.13	.201	6677	14	02	53	
	29	0	33	53.72	3	12	15.1	3.99	2.12	.206	4008	14	01	43	
MAR.	1	0	36	40.25	+	3	30	49.2	3.98	2.12	2.211	1216	14	00	33

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.					
	H	M	S	O	'	"	"	"	AU	H	M	S			
MAR.	2	0	39	26.74	+	3	49	20.3	3.97	2.11	2.215	8299	13	59	23
	3	0	42	13.22		4	07	48.2	3.96	2.11	.220	5251	13	58	13
	4	0	44	59.68		4	26	12.6	3.95	2.10	.225	2072	13	57	03
	5	0	47	46.13		4	44	33.4	3.94	2.10	.229	8760	13	55	53
	6	0	50	32.57		5	02	50.5	3.94	2.09	.234	5312	13	54	43
	7	0	53	19.02	+	5	21	03.6	3.93	2.09	2.239	1726	13	53	33
	8	0	56	05.48		5	39	12.7	3.92	2.09	.243	8002	13	52	23
	9	0	58	51.96		5	57	17.5	3.91	2.08	.248	4137	13	51	13
	10	1	01	38.45		6	15	17.8	3.90	2.08	.253	0132	13	50	03
	11	1	04	24.97		6	33	13.6	3.90	2.07	.257	5984	13	48	53
	12	1	07	11.52	+	6	51	04.7	3.89	2.07	2.262	1697	13	47	43
	13	1	09	58.11		7	08	50.8	3.88	2.06	.266	7267	13	46	33
	14	1	12	44.75		7	26	31.9	3.87	2.06	.271	2695	13	45	23
	15	1	15	31.44		7	44	07.8	3.86	2.06	.275	7982	13	44	14
	16	1	18	18.20		8	01	38.4	3.86	2.05	.280	3125	13	43	04
	17	1	21	05.03	+	8	19	03.5	3.85	2.05	2.284	8123	13	41	54
18	1	23	51.95		8	36	23.1	3.84	2.04	.289	2972	13	40	45	
19	1	26	38.96		8	53	37.0	3.83	2.04	.293	7668	13	39	35	
20	1	29	26.07		9	10	45.0	3.83	2.04	.298	2204	13	38	26	
21	1	32	13.29		9	27	47.1	3.82	2.03	.302	6577	13	37	17	
22	1	35	00.62	+	9	44	43.1	3.81	2.03	2.307	0777	13	36	08	
23	1	37	48.07		10	01	32.9	3.80	2.02	.311	4802	13	34	59	
24	1	40	35.64		10	18	16.3	3.80	2.02	.315	8641	13	33	50	
25	1	43	23.33		10	34	53.1	3.79	2.02	.320	2289	13	32	41	
26	1	46	11.16		10	51	23.1	3.78	2.01	.324	5739	13	31	33	
27	1	48	59.12	+11	07	46.4	3.78	2.01	2.328	8985	13	30	24		
28	1	51	47.22		11	24	02.7	3.77	2.01	.333	2021	13	29	16	
29	1	54	35.47		11	40	11.8	3.76	2.00	.337	4844	13	28	08	
30	1	57	23.86		11	56	13.6	3.76	2.00	.341	7446	13	27	00	
31	2	00	12.41		12	12	08.1	3.75	1.99	.345	9825	13	25	52	
APR.	1	2	03	01.12	+12	27	54.9	3.74	1.99	2.350	1977	13	24	44	
	2	2	05	49.98		12	43	34.1	3.74	1.99	.354	3899	13	23	36
	3	2	08	39.01		12	59	05.4	3.73	1.98	.358	5588	13	22	29
	4	2	11	28.20		13	14	28.8	3.72	1.98	.362	7041	13	21	22
	5	2	14	17.56		13	29	44.1	3.72	1.98	.366	8256	13	20	15
	6	2	17	07.08	+13	44	51.1	3.71	1.97	2.370	9232	13	19	08	
	7	2	19	56.77		13	59	49.8	3.70	1.97	.374	9966	13	18	01
	8	2	22	46.63		14	14	39.9	3.70	1.97	.379	0458	13	16	55
	9	2	25	36.66		14	29	21.4	3.69	1.96	.383	0706	13	15	48
	10	2	28	26.87		14	43	54.2	3.68	1.96	.387	0713	13	14	42
	11	2	31	17.25	+14	58	18.0	3.68	1.96	2.391	0476	13	13	36	
	12	2	34	07.82		15	12	32.9	3.67	1.95	.394	9997	13	12	30
	13	2	36	58.57		15	26	38.6	3.67	1.95	.398	9273	13	11	25
	14	2	39	49.51		15	40	35.2	3.66	1.95	.402	8303	13	10	19
	15	2	42	40.65		15	54	22.4	3.65	1.94	.406	7085	13	09	14
	16	2	45	31.99	+16	08	00.3	3.65	1.94	2.410	5615	13	08	09	
	17	2	48	23.54		16	21	28.7	3.64	1.94	.414	3889	13	07	04
	18	2	51	15.29		16	34	47.6	3.64	1.94	.418	1899	13	05	59
	19	2	54	07.25		16	47	56.7	3.63	1.93	.421	9642	13	04	55
	20	2	56	59.41		17	00	56.1	3.63	1.93	.425	7109	13	03	51
	21	2	59	51.77	+17	13	45.5	3.62	1.93	2.429	4293	13	02	47	
	22	3	02	44.34		17	26	24.9	3.61	1.92	.433	1187	13	01	43
	23	3	05	37.11		17	38	54.2	3.61	1.92	.436	7786	13	00	39
	24	3	08	30.09		17	51	13.1	3.60	1.92	.440	4081	12	59	36
	25	3	11	23.28		18	03	21.7	3.60	1.91	.444	0069	12	58	33
	26	3	14	16.66	+18	15	19.9	3.59	1.91	2.447	5742	12	57	30	
	27	3	17	10.26		18	27	07.5	3.59	1.91	.451	1096	12	56	27
	28	3	20	04.05		18	38	44.4	3.58	1.91	.454	6126	12	55	24
	29	3	22	58.04		18	50	10.5	3.58	1.90	.458	0828	12	54	22
	30	3	25	52.23		19	01	25.8	3.57	1.90	.461	5198	12	53	19
MAY	1	3	28	46.61	+19	12	30.2	3.57	1.90	2.464	9233	12	52	17	

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
	H	M	S	°	'	''	°	'	AU	H M S
MAY	2	3 31	41.18	+19 23	23.5		3.56	1.90	2.468 2929	12 51 16
	3	3 34	35.93	19 34	05.6		3.56	1.89	.471 6284	12 50 14
	4	3 37	30.87	19 44	36.6		3.55	1.89	.474 9297	12 49 12
	5	3 40	25.97	19 54	56.2		3.55	1.89	.478 1965	12 48 11
	6	3 43	21.24	20 05	04.3		3.54	1.89	.481 4286	12 47 10
	7	3 46	16.68	+20 15	01.0		3.54	1.88	2.484 6261	12 46 09
	8	3 49	12.27	20 24	46.1		3.53	1.88	.487 7888	12 45 08
	9	3 52	08.03	20 34	19.6		3.53	1.88	.490 9168	12 44 07
	10	3 55	03.94	20 43	41.3		3.53	1.88	.494 0101	12 43 07
	11	3 58	00.01	20 52	51.2		3.52	1.87	.497 0687	12 42 07
	12	4 00	56.23	+21 01	49.3		3.52	1.87	2.500 0925	12 41 06
	13	4 03	52.60	21 10	35.5		3.51	1.87	.503 0814	12 40 06
	14	4 06	49.13	21 19	09.8		3.51	1.87	.506 0350	12 39 06
	15	4 09	45.80	21 27	32.1		3.51	1.87	.508 9531	12 38 07
	16	4 12	42.61	21 35	42.4		3.50	1.86	.511 8350	12 37 07
	17	4 15	39.55	+21 43	40.6		3.50	1.86	2.514 6802	12 36 07
	18	4 18	36.62	21 51	26.7		3.49	1.86	.517 4881	12 35 08
	19	4 21	33.82	21 59	00.5		3.49	1.86	.520 2581	12 34 09
	20	4 24	31.13	22 06	22.0		3.49	1.85	.522 9893	12 33 10
	21	4 27	28.56	22 13	31.2		3.48	1.85	.525 6811	12 32 11
	22	4 30	26.10	+22 20	28.1		3.48	1.85	2.528 3331	12 31 12
	23	4 33	23.74	22 27	12.4		3.47	1.85	.530 9444	12 30 13
	24	4 36	21.48	22 33	44.4		3.47	1.85	.533 5147	12 29 14
	25	4 39	19.30	22 40	03.8		3.47	1.85	.536 0432	12 28 16
	26	4 42	17.21	22 46	10.6		3.46	1.84	.538 5297	12 27 17
	27	4 45	15.19	+22 52	04.9		3.46	1.84	2.540 9736	12 26 18
	28	4 48	13.24	22 57	46.5		3.46	1.84	.543 3745	12 25 20
	29	4 51	11.34	23 03	15.5		3.45	1.84	.545 7321	12 24 22
	30	4 54	09.49	23 08	31.8		3.45	1.84	.548 0459	12 23 23
	31	4 57	07.67	23 13	35.4		3.45	1.84	.550 3159	12 22 25
JUNE	1	5 00	05.87	+23 18	26.3		3.45	1.83	2.552 5416	12 21 27
	2	5 03	04.09	23 23	04.4		3.44	1.83	.554 7230	12 20 28
	3	5 06	02.31	23 27	29.8		3.44	1.83	.556 8598	12 19 30
	4	5 09	00.53	23 31	42.3		3.44	1.83	.558 9524	12 18 32
	5	5 11	58.73	23 35	42.1		3.43	1.83	.561 0001	12 17 33
	6	5 14	56.92	+23 39	29.0		3.43	1.83	2.563 0033	12 16 35
	7	5 17	55.08	23 43	03.0		3.43	1.82	.564 9620	12 15 37
	8	5 20	53.21	23 46	24.3		3.43	1.82	.566 8763	12 14 38
	9	5 23	51.30	23 49	32.7		3.42	1.82	.568 7461	12 13 40
	10	5 26	49.34	23 52	28.4		3.42	1.82	.570 5713	12 12 41
	11	5 29	47.34	+23 55	11.3		3.42	1.82	2.572 3519	12 11 43
	12	5 32	45.27	23 57	41.5		3.42	1.82	.574 0876	12 10 44
	13	5 35	43.14	23 59	58.9		3.41	1.82	.575 7779	12 09 45
	14	5 38	40.92	24 02	03.6		3.41	1.82	.577 4224	12 08 47
	15	5 41	38.63	24 03	55.6		3.41	1.81	.579 0205	12 07 48
	16	5 44	36.24	+24 05	34.8		3.41	1.81	2.580 5717	12 06 49
	17	5 47	33.75	24 07	01.4		3.41	1.81	.582 0752	12 05 50
	18	5 50	31.15	24 08	15.2		3.40	1.81	.583 5305	12 04 51
	19	5 53	28.44	24 09	16.3		3.40	1.81	.584 9370	12 03 51
	20	5 56	25.61	24 10	04.8		3.40	1.81	.586 2940	12 02 52
	21	5 59	22.65	+24 10	40.7		3.40	1.81	2.587 6010	12 01 52
	22	6 02	19.55	24 11	04.0		3.40	1.81	.588 8577	12 00 53
	23	6 05	16.30	24 11	14.7		3.40	1.81	.590 0633	11 59 53
	24	6 08	12.89	24 11	12.9		3.39	1.81	.591 2175	11 58 53
	25	6 11	09.31	24 10	58.7		3.39	1.81	.592 3200	11 57 53
	26	6 14	05.56	+24 10	32.0		3.39	1.80	2.593 3703	11 56 52
	27	6 17	01.61	24 09	53.0		3.39	1.80	.594 3682	11 55 52
	28	6 19	57.46	24 09	01.6		3.39	1.80	.595 3132	11 54 51
	29	6 22	53.11	24 07	57.9		3.39	1.80	.596 2052	11 53 50
	30	6 25	48.52	24 06	42.0		3.39	1.80	.597 0441	11 52 49
JULY	1	6 28	43.71	+24 05	13.9		3.39	1.80	2.597 8299	11 51 47

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
	H	M	S	O	'	"				
									AU	H M S
JULY 2	6	31	38.66	+24	03	33.7	3.38	1.80	2.598 5622	11 50 46
3	6	34	33.36	24	01	41.4	3.38	1.80	.599 2413	11 49 44
4	6	37	27.80	23	59	37.0	3.38	1.80	.599 8672	11 48 42
5	6	40	21.99	23	57	20.7	3.38	1.80	.600 4399	11 47 39
6	6	43	15.91	23	54	52.5	3.38	1.80	.600 9595	11 46 36
7	6	46	09.56	+23	52	12.5	3.38	1.80	2.601 4261	11 45 33
8	6	49	02.94	23	49	20.8	3.38	1.80	.601 8399	11 44 30
9	6	51	56.03	23	46	17.4	3.38	1.80	.602 2006	11 43 27
10	6	54	48.83	23	43	02.5	3.38	1.80	.602 5082	11 42 23
11	6	57	41.34	23	39	36.1	3.38	1.80	.602 7624	11 41 18
12	7	00	33.54	+23	35	58.2	3.38	1.80	2.602 9628	11 40 14
13	7	03	25.43	23	32	09.0	3.38	1.80	.603 1092	11 39 09
14	7	06	17.02	23	28	08.4	3.38	1.80	.603 2009	11 38 04
15	7	09	08.29	23	23	56.6	3.38	1.80	.603 2372	11 36 59
16	7	11	59.24	23	19	33.6	3.38	1.80	.603 2179	11 35 53
17	7	14	49.87	+23	14	59.5	3.38	1.80	2.603 1423	11 34 47
18	7	17	40.17	23	10	14.5	3.38	1.80	.603 0097	11 33 41
19	7	20	30.14	23	05	18.4	3.38	1.80	.602 8196	11 32 34
20	7	23	19.78	23	00	11.6	3.38	1.80	.602 5718	11 31 27
21	7	26	09.06	22	54	54.0	3.38	1.80	.602 2658	11 30 20
22	7	28	58.00	+22	49	25.8	3.38	1.80	2.601 9009	11 29 12
23	7	31	46.59	22	43	47.0	3.38	1.80	.601 4771	11 28 04
24	7	34	34.81	22	37	57.8	3.38	1.80	.600 9938	11 26 55
25	7	37	22.66	22	31	58.2	3.38	1.80	.600 4508	11 25 46
26	7	40	10.14	22	25	48.3	3.38	1.80	.599 8478	11 24 37
27	7	42	57.24	+22	19	28.3	3.38	1.80	2.599 1845	11 23 28
28	7	45	43.94	22	12	58.3	3.38	1.80	.598 4609	11 22 18
29	7	48	30.26	22	06	18.2	3.39	1.80	.597 6769	11 21 07
30	7	51	16.18	21	59	28.3	3.39	1.80	.596 8324	11 19 57
31	7	54	01.70	21	52	28.6	3.39	1.80	.595 9277	11 18 45
AUG. 1	7	56	46.82	+21	45	19.2	3.39	1.80	2.594 9629	11 17 34
2	7	59	31.54	21	38	00.3	3.39	1.80	.593 9379	11 16 22
3	8	02	15.85	21	30	31.9	3.39	1.80	.592 8532	11 15 10
4	8	04	59.77	21	22	54.2	3.39	1.81	.591 7086	11 13 57
5	8	07	43.27	21	15	07.2	3.39	1.81	.590 5045	11 12 44
6	8	10	26.37	+21	07	11.2	3.40	1.81	2.589 2408	11 11 30
7	8	13	09.06	20	59	06.1	3.40	1.81	.587 9176	11 10 16
8	8	15	51.34	20	50	52.1	3.40	1.81	.586 5348	11 09 02
9	8	18	33.21	20	42	29.3	3.40	1.81	.585 0921	11 07 47
10	8	21	14.66	20	33	57.8	3.40	1.81	.583 5892	11 06 32
11	8	23	55.71	+20	25	17.6	3.41	1.81	2.582 0259	11 05 16
12	8	26	36.35	20	16	28.8	3.41	1.81	.580 4015	11 04 00
13	8	29	16.58	20	07	31.6	3.41	1.81	.578 7158	11 02 43
14	8	31	56.41	19	58	26.1	3.41	1.82	.576 9682	11 01 27
15	8	34	35.84	19	49	12.3	3.41	1.82	.575 1584	11 00 09
16	8	37	14.86	+19	39	50.3	3.42	1.82	2.573 2859	10 58 52
17	8	39	53.49	19	30	20.3	3.42	1.82	.571 3501	10 57 34
18	8	42	31.70	19	20	42.4	3.42	1.82	.569 3509	10 56 15
19	8	45	09.52	19	10	56.7	3.43	1.82	.567 2878	10 54 56
20	8	47	46.92	19	01	03.4	3.43	1.82	.565 1606	10 53 37
21	8	50	23.92	+18	51	02.4	3.43	1.83	2.562 9689	10 52 17
22	8	53	00.51	18	40	54.0	3.43	1.83	.560 7125	10 50 57
23	8	55	36.69	18	30	38.3	3.44	1.83	.558 3911	10 49 37
24	8	58	12.46	18	20	15.3	3.44	1.83	.556 0045	10 48 16
25	9	00	47.81	18	09	45.3	3.44	1.83	.553 5528	10 46 55
26	9	03	22.75	+17	59	08.2	3.45	1.83	2.551 0357	10 45 33
27	9	05	57.28	17	48	24.2	3.45	1.84	.548 4537	10 44 11
28	9	08	31.41	17	37	33.5	3.45	1.84	.545 8066	10 42 48
29	9	11	05.13	17	26	36.1	3.46	1.84	.543 0948	10 41 25
30	9	13	38.44	17	15	32.1	3.46	1.84	.540 3186	10 40 02
31	9	16	11.36	+17	04	21.7	3.47	1.84	2.537 4782	10 38 38

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	"			AU		H	M	S
SEPT. 1	9	18	43.87	+16	53	05.0	3.47	1.85	2.534	5739	10	37	14
2	9	21	15.99	16	41	42.2	3.47	1.85	.531	6058	10	35	50
3	9	23	47.72	16	30	13.2	3.48	1.85	.528	5741	10	34	25
4	9	26	19.05	16	18	38.3	3.48	1.85	.525	4791	10	32	59
5	9	28	49.99	16	06	57.5	3.49	1.86	.522	3208	10	31	34
6	9	31	20.54	+15	55	10.9	3.49	1.86	2.519	0991	10	30	08
7	9	33	50.72	15	43	18.6	3.50	1.86	.515	8140	10	28	41
8	9	36	20.52	15	31	20.7	3.50	1.86	.512	4653	10	27	14
9	9	38	49.96	15	19	17.3	3.50	1.87	.509	0525	10	25	47
10	9	41	19.03	15	07	08.5	3.51	1.87	.505	5756	10	24	20
11	9	43	47.74	+14	54	54.3	3.51	1.87	2.502	0341	10	22	52
12	9	46	16.10	14	42	35.0	3.52	1.87	.498	4278	10	21	23
13	9	48	44.11	14	30	10.5	3.52	1.88	.494	7563	10	19	55
14	9	51	11.77	14	17	41.0	3.53	1.88	.491	0194	10	18	26
15	9	53	39.09	14	05	06.6	3.54	1.88	.487	2168	10	16	57
16	9	56	06.06	+13	52	27.4	3.54	1.88	2.483	3483	10	15	27
17	9	58	32.70	13	39	43.6	3.55	1.89	.479	4136	10	13	57
18	10	00	58.99	13	26	55.2	3.55	1.89	.475	4124	10	12	27
19	10	03	24.95	13	14	02.4	3.56	1.89	.471	3447	10	10	56
20	10	05	50.58	13	01	05.3	3.56	1.90	.467	2102	10	09	25
21	10	08	15.87	+12	48	03.9	3.57	1.90	2.463	0090	10	07	54
22	10	10	40.83	12	34	58.4	3.58	1.90	.458	7409	10	06	22
23	10	13	05.47	12	21	49.0	3.58	1.91	.454	4060	10	04	50
24	10	15	29.78	12	08	35.6	3.59	1.91	.450	0048	10	03	18
25	10	17	53.77	11	55	18.5	3.60	1.91	.445	5372	10	01	45
26	10	20	17.45	+11	41	57.7	3.60	1.92	2.441	0038	10	00	12
27	10	22	40.82	11	28	33.3	3.61	1.92	.436	4048	9	58	39
28	10	25	03.88	11	15	05.5	3.62	1.92	.431	7407	9	57	06
29	10	27	26.63	11	01	34.4	3.62	1.93	.427	0121	9	55	32
30	10	29	49.09	10	48	00.0	3.63	1.93	.422	2192	9	53	58
OCT. 1	10	32	11.25	+10	34	22.6	3.64	1.94	2.417	3625	9	52	23
2	10	34	33.11	10	20	42.1	3.65	1.94	.412	4423	9	50	49
3	10	36	54.69	10	06	58.6	3.65	1.94	.407	4587	9	49	14
4	10	39	15.98	9	53	12.4	3.66	1.95	.402	4119	9	47	38
5	10	41	37.00	9	39	23.3	3.67	1.95	.397	3020	9	46	03
6	10	43	57.76	+ 9	25	31.6	3.68	1.96	2.392	1290	9	44	27
7	10	46	18.25	9	11	37.2	3.68	1.96	.386	8928	9	42	51
8	10	48	38.50	8	57	40.3	3.69	1.97	.381	5935	9	41	15
9	10	50	58.49	8	43	41.0	3.70	1.97	.376	2308	9	39	38
10	10	53	18.25	8	29	39.3	3.71	1.97	.370	8046	9	38	01
11	10	55	37.76	+ 8	15	35.3	3.72	1.98	2.365	3149	9	36	24
12	10	57	57.05	8	01	29.2	3.73	1.98	.359	7614	9	34	47
13	11	00	16.10	7	47	21.1	3.74	1.99	.354	1440	9	33	10
14	11	02	34.93	7	33	11.0	3.74	1.99	.348	4628	9	31	32
15	11	04	53.54	7	18	59.1	3.75	2.00	.342	7175	9	29	54
16	11	07	11.92	+ 7	04	45.4	3.76	2.00	2.336	9082	9	28	16
17	11	09	30.09	6	50	30.1	3.77	2.01	.331	0347	9	26	37
18	11	11	48.04	6	36	13.3	3.78	2.01	.325	0971	9	24	59
19	11	14	05.78	6	21	55.1	3.79	2.02	.319	0953	9	23	20
20	11	16	23.32	6	07	35.5	3.80	2.02	.313	0296	9	21	41
21	11	18	40.65	+ 5	53	14.8	3.81	2.03	2.306	9001	9	20	02
22	11	20	57.78	5	38	52.9	3.82	2.03	.300	7070	9	18	22
23	11	23	14.71	5	24	30.0	3.83	2.04	.294	4508	9	16	43
24	11	25	31.45	5	10	06.2	3.84	2.05	.288	1321	9	15	03
25	11	27	48.00	4	55	41.6	3.85	2.05	.281	7515	9	13	23
26	11	30	04.36	+ 4	41	16.3	3.86	2.06	2.275	3094	9	11	43
27	11	32	20.54	4	26	50.5	3.88	2.06	.268	8066	9	10	03
28	11	34	36.53	4	12	24.1	3.89	2.07	.262	2438	9	08	22
29	11	36	52.34	3	57	57.4	3.90	2.07	.255	6214	9	06	41
30	11	39	07.98	3	43	30.4	3.91	2.08	.248	9400	9	05	01
31	11	41	23.45	+ 3	29	03.2	3.92	2.09	2.242	2000	9	03	20

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	O	'	"			AU		H	M	S
NOV. 1	11	43	38.75	+	3	14 35.8	3.93	2.09	2.235	4018	9	01	38
2	11	45	53.91		3	00 08.3	3.95	2.10	.228	5456	8	59	57
3	11	48	08.91		2	45 40.9	3.96	2.11	.221	6318	8	58	16
4	11	50	23.77		2	31 13.4	3.97	2.11	.214	6604	8	56	34
5	11	52	38.49		2	16 46.2	3.98	2.12	.207	6319	8	54	52
6	11	54	53.09	+	2	02 19.1	4.00	2.13	2.200	5460	8	53	10
7	11	57	07.55		1	47 52.4	4.01	2.13	.193	4030	8	51	28
8	11	59	21.90		1	33 26.0	4.02	2.14	.186	2031	8	49	46
9	12	01	36.12		1	19 00.1	4.04	2.15	.178	9461	8	48	04
10	12	03	50.23		1	04 34.8	4.05	2.16	.171	6322	8	46	21
11	12	06	04.23	+	0	50 10.2	4.06	2.16	2.164	2616	8	44	39
12	12	08	18.11		0	35 46.3	4.08	2.17	.156	8343	8	42	56
13	12	10	31.88		0	21 23.3	4.09	2.18	.149	3504	8	41	14
14	12	12	45.54	+	0	07 01.3	4.11	2.19	.141	8101	8	39	31
15	12	14	59.10	-	0	07 19.6	4.12	2.19	.134	2135	8	37	48
16	12	17	12.56	-	0	21 39.5	4.14	2.20	2.126	5608	8	36	05
17	12	19	25.92		0	35 58.0	4.15	2.21	.118	8522	8	34	22
18	12	21	39.17		0	50 15.2	4.17	2.22	.111	0881	8	32	39
19	12	23	52.34		1	04 30.9	4.18	2.23	.103	2689	8	30	55
20	12	26	05.40		1	18 45.1	4.20	2.23	.095	3952	8	29	12
21	12	28	18.38	-	1	32 57.6	4.21	2.24	2.087	4676	8	27	28
22	12	30	31.26		1	47 08.3	4.23	2.25	.079	4869	8	25	45
23	12	32	44.04		2	01 17.2	4.25	2.26	.071	4541	8	24	01
24	12	34	56.74		2	15 24.1	4.26	2.27	.063	3697	8	22	17
25	12	37	09.33		2	29 29.0	4.28	2.28	.055	2348	8	20	34
26	12	39	21.84	-	2	43 31.7	4.30	2.29	2.047	0503	8	18	50
27	12	41	34.25		2	57 32.2	4.31	2.30	.038	8166	8	17	06
28	12	43	46.59		3	11 30.4	4.33	2.30	.030	5347	8	15	21
29	12	45	58.85		3	25 26.2	4.35	2.31	.022	2050	8	13	37
30	12	48	11.03		3	39 19.6	4.37	2.32	.013	8282	8	11	53
DEC. 1	12	50	23.14	-	3	53 10.5	4.39	2.33	2.005	4046	8	10	09
2	12	52	35.19		4	06 58.9	4.40	2.34	1.996	9347	8	08	24
3	12	54	47.18		4	20 44.7	4.42	2.35	.988	4189	8	06	40
4	12	56	59.10		4	34 27.8	4.44	2.36	.979	8577	8	04	55
5	12	59	10.97		4	48 08.1	4.46	2.37	.971	2511	8	03	11
6	13	01	22.79	-	5	01 45.6	4.48	2.38	1.962	5996	8	01	26
7	13	03	34.55		5	15 20.2	4.50	2.40	.953	9035	7	59	41
8	13	05	46.26		5	28 51.8	4.52	2.41	.945	1631	7	57	57
9	13	07	57.91		5	42 20.2	4.54	2.42	.936	3786	7	56	12
10	13	10	09.52		5	55 45.5	4.56	2.43	.927	5505	7	54	27
11	13	12	21.06	-	6	09 07.6	4.58	2.44	1.918	6788	7	52	42
12	13	14	32.56		6	22 26.2	4.60	2.45	.909	7639	7	50	57
13	13	16	43.99		6	35 41.4	4.63	2.46	.900	8062	7	49	12
14	13	18	55.38		6	48 53.1	4.65	2.47	.891	8060	7	47	27
15	13	21	06.71		7	02 01.2	4.67	2.49	.882	7639	7	45	42
16	13	23	17.98	-	7	15 05.5	4.69	2.50	1.873	6800	7	43	57
17	13	25	29.20		7	28 06.0	4.72	2.51	.864	5551	7	42	11
18	13	27	40.35		7	41 02.7	4.74	2.52	.855	3899	7	40	26
19	13	29	51.45		7	53 55.4	4.76	2.53	.846	1852	7	38	41
20	13	32	02.47		8	06 43.9	4.79	2.55	.836	9419	7	36	55
21	13	34	13.42	-	8	19 28.3	4.81	2.56	1.827	6610	7	35	10
22	13	36	24.29		8	32 08.5	4.84	2.57	.818	3435	7	33	24
23	13	38	35.08		8	44 44.3	4.86	2.59	.808	9904	7	31	39
24	13	40	45.78		8	57 15.7	4.89	2.60	.799	6028	7	29	53
25	13	42	56.41		9	09 42.5	4.91	2.61	.790	1818	7	28	07
26	13	45	06.95	-	9	22 04.9	4.94	2.63	1.780	7281	7	26	21
27	13	47	17.41		9	34 22.6	4.96	2.64	.771	2425	7	24	35
28	13	49	27.79		9	46 35.7	4.99	2.66	.761	7260	7	22	49
29	13	51	38.10		9	58 44.2	5.02	2.67	.752	1791	7	21	03
30	13	53	48.32		10	10 47.9	5.05	2.69	.742	6024	7	19	17
31	13	55	58.47	-10	22	46.8	5.07	2.70	1.732	9967	7	17	30

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"	"	"	AU		H	M	S
JAN.	1	13	58	08.53	-10	34	40.9	5.10	2.72	1.723	3623	7	15	44
	2	14	00	18.51	10	46	30.1	5.13	2.73	.713	6998	7	13	58
	3	14	02	28.40	10	58	14.3	5.16	2.75	.704	0099	7	12	11
	4	14	04	38.21	11	09	53.5	5.19	2.76	.694	2928	7	10	24
	5	14	06	47.91	11	21	27.7	5.22	2.78	.684	5494	7	08	38
	6	14	08	57.52	-11	32	56.7	5.25	2.79	1.674	7796	7	06	51
	7	14	11	07.03	11	44	20.4	5.28	2.81	.664	9843	7	05	04
	8	14	13	16.43	11	55	38.9	5.31	2.83	.655	1637	7	03	17
	9	14	15	25.72	12	06	52.1	5.34	2.84	.645	3184	7	01	30
	10	14	17	34.88	12	17	59.8	5.38	2.86	.635	4487	6	59	42
	11	14	19	43.93	-12	29	02.0	5.41	2.88	1.625	5551	6	57	55
	12	14	21	52.85	12	39	58.7	5.44	2.90	.615	6383	6	56	07
	13	14	24	01.63	12	50	49.7	5.48	2.91	.605	6988	6	54	20
	14	14	26	10.27	13	01	35.1	5.51	2.93	.595	7373	6	52	32
	15	14	28	18.75	13	12	14.7	5.55	2.95	.585	7546	6	50	44
	16	14	30	27.07	-13	22	48.5	5.58	2.97	1.575	7516	6	48	56
	17	14	32	35.21	13	33	16.4	5.62	2.99	.565	7293	6	47	07
	18	14	34	43.16	13	43	38.4	5.65	3.01	.555	6890	6	45	19
	19	14	36	50.92	13	53	54.3	5.69	3.03	.545	6315	6	43	30
	20	14	38	58.46	14	04	04.2	5.73	3.05	.535	5583	6	41	41
	21	14	41	05.78	-14	14	08.0	5.76	3.07	1.525	4705	6	39	52
	22	14	43	12.88	14	24	05.6	5.80	3.09	.515	3692	6	38	03
	23	14	45	19.75	14	33	57.1	5.84	3.11	.505	2556	6	36	13
	24	14	47	26.39	14	43	42.3	5.88	3.13	.495	1306	6	34	23
	25	14	49	32.78	14	53	21.4	5.92	3.15	.484	9952	6	32	33
	26	14	51	38.93	-15	02	54.3	5.96	3.17	1.474	8503	6	30	43
	27	14	53	44.83	15	12	20.9	6.00	3.20	.464	6966	6	28	52
	28	14	55	50.46	15	21	41.4	6.05	3.22	.454	5350	6	27	01
	29	14	57	55.82	15	30	55.5	6.09	3.24	.444	3660	6	25	10
	30	15	00	00.90	15	40	03.4	6.13	3.26	.434	1907	6	23	19
FEB.	31	15	02	05.69	-15	49	05.0	6.18	3.29	1.424	0093	6	21	27
	1	15	04	10.18	15	58	00.4	6.22	3.31	.413	8228	6	19	35
	2	15	06	14.36	16	06	49.3	6.27	3.33	.403	6317	6	17	43
	3	15	08	18.21	16	15	31.9	6.31	3.36	.393	4367	6	15	50
	4	15	10	21.73	16	24	08.2	6.36	3.38	.383	2383	6	13	57
	5	15	12	24.90	-16	32	38.0	6.40	3.41	1.373	0367	6	12	04
	6	15	14	27.70	16	41	01.4	6.45	3.43	.362	8330	6	10	10
	7	15	16	30.14	16	49	18.3	6.50	3.46	.352	6275	6	08	16
	8	15	18	32.18	16	57	28.8	6.55	3.49	.342	4207	6	06	22
	9	15	20	33.82	17	05	32.7	6.60	3.51	.332	2136	6	04	27
	10	15	22	35.04	-17	13	30.2	6.65	3.54	1.322	0065	6	02	31
	11	15	24	35.81	17	21	21.1	6.70	3.57	.311	8006	6	00	36
	12	15	26	36.13	17	29	05.6	6.76	3.60	.301	5967	5	58	39
	13	15	28	35.96	17	36	43.5	6.81	3.62	.291	3957	5	56	43
	14	15	30	35.28	17	44	14.8	6.86	3.65	.281	1988	5	54	45
	15	15	32	34.08	-17	51	39.5	6.92	3.68	1.271	0072	5	52	48
	16	15	34	32.32	17	58	57.7	6.97	3.71	.260	8222	5	50	49
	17	15	36	29.99	18	06	09.3	7.03	3.74	.250	6451	5	48	51
	18	15	38	27.07	18	13	14.4	7.09	3.77	.240	4771	5	46	51
	19	15	40	23.55	18	20	12.9	7.15	3.80	.230	3198	5	44	51
	20	15	42	19.41	-18	27	05.0	7.21	3.84	1.220	1741	5	42	50
	21	15	44	14.62	18	33	50.6	7.27	3.87	.210	0415	5	40	49
	22	15	46	09.18	18	40	29.8	7.33	3.90	.199	9231	5	38	47
	23	15	48	03.07	18	47	02.7	7.39	3.93	.189	8197	5	36	44
	24	15	49	56.26	18	53	29.3	7.45	3.97	.179	7324	5	34	41
	25	15	51	48.75	-18	59	49.7	7.52	4.00	1.169	6625	5	32	37
	26	15	53	40.50	19	06	03.9	7.58	4.04	.159	6105	5	30	32
	27	15	55	31.50	19	12	11.9	7.65	4.07	.149	5775	5	28	27
	28	15	57	21.73	19	18	13.9	7.72	4.11	.139	5642	5	26	20
MAR.	1	15	59	11.16	19	24	09.9	7.79	4.14	.129	5718	5	24	13
	2	16	00	59.77	-19	29	59.9	7.85	4.18	1.119	6007	5	22	05

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"	"	"	AU		H	M	S
MAR.	3	16	02	47.53	-19	35	43.9	7.93	4.22	1.109	6519	5	19	57
	4	16	04	34.43	19	41	22.0	8.00	4.26	.099	7261	5	17	47
	5	16	06	20.44	19	46	54.3	8.07	4.29	.089	8240	5	15	36
	6	16	08	05.53	19	52	20.8	8.14	4.33	.079	9464	5	13	25
	7	16	09	49.67	19	57	41.5	8.22	4.37	.070	0939	5	11	12
	8	16	11	32.84	-20	02	56.6	8.29	4.41	1.060	2672	5	08	59
	9	16	13	15.00	20	08	06.0	8.37	4.46	.050	4674	5	06	45
	10	16	14	56.12	20	13	09.9	8.45	4.50	.040	6955	5	04	29
	11	16	16	36.17	20	18	08.2	8.53	4.54	.030	9522	5	02	13
	12	16	18	15.10	20	23	01.2	8.61	4.58	.021	2391	4	59	55
	13	16	19	52.87	-20	27	48.7	8.69	4.63	1.011	5569	4	57	36
	14	16	21	29.45	20	32	31.0	8.78	4.67	1.001	9074	4	55	16
	15	16	23	04.79	20	37	08.1	8.86	4.72	0.992	2919	4	52	55
	16	16	24	38.87	20	41	40.0	8.95	4.76	.982	7118	4	50	32
	17	16	26	11.63	20	46	06.8	9.04	4.81	.973	1688	4	48	09
	18	16	27	43.05	-20	50	28.7	9.13	4.86	0.963	6646	4	45	44
	19	16	29	13.09	20	54	45.7	9.22	4.90	.954	2007	4	43	17
	20	16	30	41.72	20	58	58.0	9.31	4.95	.944	7788	4	40	49
APR.	21	16	32	08.90	21	03	05.7	9.40	5.00	.935	4004	4	38	20
	22	16	33	34.60	21	07	08.9	9.50	5.05	.926	0668	4	35	49
	23	16	34	58.78	-21	11	07.7	9.59	5.10	0.916	7797	4	33	16
	24	16	36	21.41	21	15	02.4	9.69	5.16	.907	5402	4	30	42
	25	16	37	42.45	21	18	52.9	9.79	5.21	.898	3500	4	28	07
	26	16	39	01.86	21	22	39.5	9.89	5.26	.889	2103	4	25	30
	27	16	40	19.61	21	26	22.3	9.99	5.32	.880	1223	4	22	51
	28	16	41	35.65	-21	30	01.3	10.10	5.37	0.871	0874	4	20	10
	29	16	42	49.94	21	33	36.7	10.20	5.43	.862	1068	4	17	28
	30	16	44	02.43	21	37	08.6	10.31	5.49	.853	1820	4	14	44
	31	16	45	13.10	21	40	37.1	10.42	5.54	.844	3139	4	11	58
	1	16	46	21.90	21	44	02.4	10.53	5.60	.835	5039	4	09	10
	2	16	47	28.78	-21	47	24.4	10.64	5.66	0.826	7530	4	06	21
	3	16	48	33.69	21	50	43.5	10.75	5.72	.818	0626	4	03	29
	4	16	49	36.59	21	53	59.5	10.86	5.78	.809	4340	4	00	35
	5	16	50	37.44	21	57	12.7	10.98	5.84	.800	8682	3	57	40
	6	16	51	36.16	22	00	23.2	11.10	5.91	.792	3668	3	54	42
MAY	7	16	52	32.71	-22	03	31.1	11.22	5.97	0.783	9313	3	51	42
	8	16	53	27.03	22	06	36.4	11.34	6.03	.775	5633	3	48	40
	9	16	54	19.05	22	09	39.3	11.46	6.10	.767	2647	3	45	35
	10	16	55	08.72	22	12	39.9	11.59	6.17	.759	0373	3	42	28
	11	16	55	55.98	22	15	38.2	11.71	6.23	.750	8832	3	39	19
	12	16	56	40.76	-22	18	34.4	11.84	6.30	0.742	8047	3	36	07
	13	16	57	23.02	22	21	28.5	11.97	6.37	.734	8038	3	32	53
	14	16	58	02.68	22	24	20.6	12.10	6.44	.726	8830	3	29	36
	15	16	58	39.72	22	27	10.9	12.23	6.51	.719	0445	3	26	17
	16	16	59	14.07	22	29	59.3	12.36	6.58	.711	2907	3	22	55
	17	16	59	45.70	-22	32	46.1	12.50	6.65	0.703	6240	3	19	30
	18	17	00	14.54	22	35	31.3	12.63	6.72	.696	0467	3	16	02
	19	17	00	40.57	22	38	15.0	12.77	6.80	.688	5610	3	12	32
	20	17	01	03.72	22	40	57.3	12.91	6.87	.681	1694	3	08	59
	21	17	01	23.97	22	43	38.3	13.05	6.94	.673	8739	3	05	23
	22	17	01	41.28	-22	46	17.8	13.19	7.02	0.666	6769	3	01	43
	23	17	01	55.59	22	48	56.2	13.33	7.10	.659	5804	2	58	01
	24	17	02	06.87	22	51	33.2	13.48	7.17	.652	5867	2	54	16
	25	17	02	15.09	22	54	09.0	13.62	7.25	.645	6980	2	50	28
	26	17	02	20.21	22	56	43.6	13.76	7.32	.638	9164	2	46	37
	27	17	02	22.19	-22	59	16.8	13.91	7.40	0.632	2440	2	42	43
	28	17	02	21.02	23	01	48.7	14.06	7.48	.625	6829	2	38	45
	29	17	02	16.66	23	04	19.2	14.20	7.56	.619	2352	2	34	45
	30	17	02	09.08	23	06	48.2	14.35	7.64	.612	9029	2	30	41
	1	17	01	58.27	23	09	15.7	14.50	7.71	.606	6881	2	26	34
	2	17	01	44.19	-23	11	41.6	14.64	7.79	0.600	5929	2	22	24

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		H	M	S	° ' "			"	"	AU		H	M	S
MAY	3	17	01	26.84	-23	14	05.7	14.79	7.87	0.594	6194	2	18	10
	4	17	01	06.18	23	16	27.9	14.94	7.95	.588	7697	2	13	53
	5	17	00	42.20	23	18	48.0	15.08	8.03	.583	0463	2	09	33
	6	17	00	14.88	23	21	06.1	15.23	8.10	.577	4518	2	05	10
	7	16	59	44.21	23	23	21.7	15.37	8.18	.571	9888	2	00	43
	8	16	59	10.19	-23	25	34.7	15.52	8.26	0.566	6598	1	56	13
	9	16	58	32.83	23	27	45.0	15.66	8.34	.561	4678	1	51	40
	10	16	57	52.14	23	29	52.3	15.80	8.41	.556	4156	1	47	03
	11	16	57	08.16	23	31	56.4	15.95	8.49	.551	5058	1	42	24
	12	16	56	20.92	23	33	57.1	16.08	8.56	.546	7414	1	37	40
	13	16	55	30.46	-23	35	54.2	16.22	8.63	0.542	1251	1	32	54
	14	16	54	36.86	23	37	47.5	16.36	8.70	.537	6596	1	28	05
	15	16	53	40.18	23	39	36.7	16.49	8.77	.533	3474	1	23	12
	16	16	52	40.51	23	41	21.6	16.62	8.84	.529	1908	1	18	17
	17	16	51	37.92	23	43	02.1	16.74	8.91	.525	1922	1	13	19
	18	16	50	32.53	-23	44	37.9	16.87	8.98	0.521	3536	1	08	18
	19	16	49	24.44	23	46	08.9	16.99	9.04	.517	6769	1	03	14
	20	16	48	13.76	23	47	34.7	17.10	9.10	.514	1642	0	58	08
	21	16	47	00.63	23	48	55.2	17.22	9.16	.510	8166	0	52	59
	22	16	45	45.19	23	50	10.3	17.32	9.22	.507	6359	0	47	48
	23	16	44	27.56	-23	51	19.6	17.43	9.27	0.504	6233	0	42	35
	24	16	43	07.90	23	52	23.3	17.53	9.33	.501	7799	0	37	20
	25	16	41	46.39	23	53	20.9	17.62	9.38	.499	1064	0	32	03
	26	16	40	23.17	23	54	12.4	17.71	9.42	.496	6038	0	26	44
	27	16	38	58.43	23	54	57.8	17.79	9.47	.494	2724	0	21	24
	28	16	37	32.34	-23	55	37.0	17.87	9.51	0.492	1126	0	16	03
	29	16	36	05.08	23	56	09.9	17.94	9.55	.490	1246	0	10	40
	30	16	34	36.83	23	56	36.5	18.01	9.58	.488	3083	0	05	17
	31	16	33	07.77	23	56	56.8	18.07	9.62	.486	6637	23	54	27
JUNE	1	16	31	38.08	23	57	11.0	18.12	9.65	.485	1907	23	49	02
2	16	30	07.95	-23	57	19.1	18.17	9.67	0.483	8891	23	43	36	
3	16	28	37.56	23	57	21.2	18.22	9.69	.482	7586	23	38	10	
4	16	27	07.11	23	57	17.5	18.25	9.71	.481	7991	23	32	44	
5	16	25	36.77	23	57	08.1	18.28	9.73	.481	0102	23	27	19	
6	16	24	06.76	23	56	53.3	18.31	9.74	.480	3914	23	21	54	
7	16	22	37.27	-23	56	33.3	18.32	9.75	0.479	9421	23	16	30	
8	16	21	08.51	23	56	08.5	18.33	9.76	.479	6615	23	11	07	
9	16	19	40.69	23	55	39.3	18.34	9.76	.479	5487	23	05	45	
10	16	18	14.00	23	55	06.0	18.34	9.76	.479	6022	23	00	24	
11	16	16	48.66	23	54	29.3	18.33	9.75	.479	8207	22	55	05	
12	16	15	24.86	-23	53	49.4	18.31	9.75	0.480	2023	22	49	47	
13	16	14	02.79	23	53	06.9	18.29	9.73	.480	7452	22	44	32	
14	16	12	42.62	23	52	22.4	18.27	9.72	.481	4472	22	39	18	
15	16	11	24.55	23	51	36.2	18.23	9.70	.482	3060	22	34	07	
16	16	10	08.74	23	50	49.1	18.20	9.68	.483	3188	22	28	58	
17	16	08	55.34	-23	50	01.5	18.15	9.66	0.484	4831	22	23	51	
18	16	07	44.51	23	49	13.9	18.10	9.63	.485	7960	22	18	47	
19	16	06	36.39	23	48	26.8	18.05	9.60	.487	2544	22	13	46	
20	16	05	31.10	23	47	40.8	17.99	9.57	.488	8551	22	08	48	
21	16	04	28.78	23	46	56.4	17.93	9.54	.490	5951	22	03	53	
22	16	03	29.51	-23	46	14.1	17.86	9.50	0.492	4709	21	59	01	
23	16	02	33.41	23	45	34.3	17.78	9.46	.494	4789	21	54	13	
24	16	01	40.56	23	44	57.4	17.71	9.42	.496	6158	21	49	27	
25	16	00	51.03	23	44	23.9	17.63	9.38	.498	8784	21	44	45	
26	16	00	04.90	23	43	54.3	17.54	9.34	.501	2627	21	40	06	
27	15	59	22.21	-23	43	28.8	17.46	9.29	0.503	7655	21	35	31	
28	15	58	43.01	23	43	07.8	17.37	9.24	.506	3835	21	30	59	
29	15	58	07.33	23	42	51.6	17.27	9.19	.509	1135	21	26	31	
30	15	57	35.19	23	42	40.6	17.18	9.14	.511	9523	21	22	07	
JULY	1	15	57	06.60	23	42	34.9	17.08	9.09	.514	8971	21	17	45
2	15	56	41.59	-23	42	34.8	16.98	9.04	0.517	9450	21	13	28	

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		H	M	S	O	'	"			AU		H	M	S
JULY	3	15	56	20.16	-23	42	40.5	16.88	8.98	0.521	0935	21	09	14
	4	15	56	02.33	23	42	52.1	16.77	8.93	.524	3396	21	05	03
	5	15	55	48.10	23	43	09.9	16.67	8.87	.527	6812	21	00	56
	6	15	55	37.48	23	43	34.1	16.56	8.81	.531	1153	20	56	53
	7	15	55	30.48	23	44	04.8	16.45	8.75	.534	6394	20	52	53
	8	15	55	27.10	-23	44	42.2	16.34	8.69	0.538	2508	20	48	57
	9	15	55	27.33	23	45	26.3	16.23	8.64	.541	9470	20	45	04
	10	15	55	31.17	23	46	17.3	16.11	8.58	.545	7249	20	41	15
	11	15	55	38.60	23	47	15.2	16.00	8.52	.549	5821	20	37	30
	12	15	55	49.60	23	48	20.0	15.89	8.46	.553	5157	20	33	48
	13	15	56	04.16	-23	49	31.8	15.77	8.39	0.557	5230	20	30	10
	14	15	56	22.24	23	50	50.5	15.66	8.33	.561	6012	20	26	35
	15	15	56	43.83	23	52	16.0	15.54	8.27	.565	7479	20	23	03
	16	15	57	08.88	23	53	48.3	15.43	8.21	.569	9602	20	19	35
	17	15	57	37.36	23	55	27.3	15.31	8.15	.574	2356	20	16	10
	18	15	58	09.24	-23	57	12.8	15.20	8.09	0.578	5714	20	12	49
	19	15	58	44.47	23	59	04.7	15.08	8.03	.582	9652	20	09	31
	20	15	59	23.02	24	01	02.8	14.97	7.97	.587	4145	20	06	16
	21	16	00	04.83	24	03	06.9	14.86	7.91	.591	9169	20	03	04
	22	16	00	49.88	24	05	16.8	14.74	7.85	.596	4699	19	59	56
	23	16	01	38.09	-24	07	32.3	14.63	7.79	0.601	0715	19	56	51
	24	16	02	29.43	24	09	53.1	14.52	7.73	.605	7193	19	53	48
	25	16	03	23.84	24	12	19.1	14.41	7.67	.610	4114	19	50	49
	26	16	04	21.26	24	14	49.9	14.30	7.61	.615	1461	19	47	53
	27	16	05	21.64	24	17	25.3	14.19	7.55	.619	9215	19	44	59
	28	16	06	24.91	-24	20	04.9	14.08	7.49	0.624	7363	19	42	09
	29	16	07	31.02	24	22	48.6	13.97	7.43	.629	5891	19	39	21
	30	16	08	39.92	24	25	35.9	13.86	7.38	.634	4787	19	36	36
	31	16	09	51.55	24	28	26.6	13.75	7.32	.639	4040	19	33	53
AUG.	1	16	11	05.87	24	31	20.5	13.65	7.26	.644	3643	19	31	14
	2	16	12	22.85	-24	34	17.1	13.54	7.21	0.649	3583	19	28	36
	3	16	13	42.44	24	37	16.4	13.44	7.15	.654	3855	19	26	02
	4	16	15	04.60	24	40	17.9	13.34	7.10	.659	4446	19	23	30
	5	16	16	29.31	24	43	21.5	13.23	7.04	.664	5349	19	21	00
	6	16	17	56.52	24	46	26.8	13.13	6.99	.669	6550	19	18	33
	7	16	19	26.20	-24	49	33.6	13.03	6.94	0.674	8042	19	16	08
	8	16	20	58.31	24	52	41.6	12.93	6.88	.679	9812	19	13	46
	9	16	22	32.81	24	55	50.5	12.83	6.83	.685	1852	19	11	26
	10	16	24	09.66	24	58	59.9	12.74	6.78	.690	4148	19	09	09
	11	16	25	48.84	25	02	09.7	12.64	6.73	.695	6692	19	06	53
	12	16	27	30.29	-25	05	19.4	12.55	6.68	0.700	9473	19	04	40
	13	16	29	13.99	25	08	28.9	12.45	6.63	.706	2479	19	02	29
	14	16	30	59.90	25	11	37.6	12.36	6.58	.711	5703	19	00	20
	15	16	32	47.98	25	14	45.3	12.27	6.53	.716	9132	18	58	14
	16	16	34	38.18	25	17	51.7	12.18	6.48	.722	2756	18	56	09
	17	16	36	30.48	-25	20	56.5	12.09	6.43	0.727	6565	18	54	07
	18	16	38	24.84	25	23	59.3	12.00	6.38	.733	0550	18	52	06
	19	16	40	21.21	25	26	59.8	11.91	6.34	.738	4702	18	50	08
	20	16	42	19.56	25	29	57.7	11.82	6.29	.743	9013	18	48	11
	21	16	44	19.84	25	32	52.7	11.74	6.25	.749	3472	18	46	17
	22	16	46	22.01	-25	35	44.4	11.65	6.20	0.754	8076	18	44	24
	23	16	48	26.03	25	38	32.8	11.57	6.16	.760	2818	18	42	33
	24	16	50	31.86	25	41	16.9	11.48	6.11	.765	7693	18	40	44
	25	16	52	39.44	25	43	57.1	11.40	6.07	.771	2699	18	38	56
	26	16	54	48.73	25	46	32.7	11.32	6.02	.776	7833	18	37	10
	27	16	56	59.71	-25	49	03.6	11.24	5.98	0.782	3096	18	35	26
	28	16	59	12.32	25	51	29.4	11.16	5.94	.787	8486	18	33	44
	29	17	01	26.54	25	53	49.8	11.08	5.90	.793	4006	18	32	03
	30	17	03	42.34	25	56	04.5	11.01	5.86	.798	9655	18	30	23
	31	17	05	59.69	25	58	13.4	10.93	5.82	.804	5435	18	28	45
SEPT.	1	17	08	18.57	-26	00	16.0	10.85	5.78	0.810	1344	18	27	09

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		H	M	S	° ' "			"	"	AU		H	M	S
SEPT.	2	17	10	38.94	-26	02	12.3	10.78	5.74	0.815	7387	18	25	34
	3	17	13	00.79	26	04	01.8	10.71	5.70	.821	3557	18	24	01
	4	17	15	24.09	26	05	44.5	10.63	5.66	.826	9855	18	22	28
	5	17	17	48.81	26	07	20.0	10.56	5.62	.832	6280	18	20	58
	6	17	20	14.92	26	08	48.0	10.49	5.58	.838	2827	18	19	29
	7	17	22	42.40	-26	10	08.4	10.42	5.55	0.843	9498	18	18	01
	8	17	25	11.21	26	11	20.9	10.35	5.51	.849	6286	18	16	34
	9	17	27	41.34	26	12	25.2	10.28	5.47	.855	3190	18	15	09
	10	17	30	12.75	26	13	21.1	10.21	5.44	.861	0207	18	13	44
	11	17	32	45.41	26	14	08.2	10.15	5.40	.866	7334	18	12	22
	12	17	35	19.31	-26	14	46.5	10.08	5.36	0.872	4567	18	11	00
	13	17	37	54.41	26	15	15.6	10.01	5.33	.878	1903	18	09	39
	14	17	40	30.68	26	15	35.4	9.95	5.29	.883	9336	18	08	20
	15	17	43	08.10	26	15	45.6	9.88	5.26	.889	6865	18	07	02
	16	17	45	46.64	26	15	45.9	9.82	5.23	.895	4484	18	05	45
	17	17	48	26.25	-26	15	36.2	9.76	5.19	0.901	2193	18	04	29
	18	17	51	06.92	26	15	16.4	9.70	5.16	.906	9985	18	03	14
	19	17	53	48.60	26	14	46.1	9.63	5.13	.912	7862	18	02	00
	20	17	56	31.25	26	14	05.3	9.57	5.09	.918	5822	18	00	46
	21	17	59	14.85	26	13	13.7	9.51	5.06	.924	3864	17	59	34
	22	18	01	59.35	-26	12	11.1	9.45	5.03	0.930	1991	17	58	23
	23	18	04	44.72	26	10	57.5	9.40	5.00	.936	0203	17	57	12
	24	18	07	30.93	26	09	32.6	9.34	4.97	.941	8503	17	56	03
	25	18	10	17.94	26	07	56.3	9.28	4.94	.947	6896	17	54	54
	26	18	13	05.74	26	06	08.4	9.22	4.91	.953	5387	17	53	46
	27	18	15	54.29	-26	04	08.8	9.17	4.88	0.959	3977	17	52	38
	28	18	18	43.58	26	01	57.4	9.11	4.85	.965	2673	17	51	32
	29	18	21	33.57	25	59	34.0	9.06	4.82	.971	1477	17	50	26
	30	18	24	24.24	25	56	58.5	9.00	4.79	.977	0393	17	49	20
OCT.	1	18	27	15.58	25	54	10.9	8.95	4.76	.982	9424	17	48	16
	2	18	30	07.56	-25	51	11.0	8.89	4.73	0.988	8570	17	47	11
	3	18	33	00.16	25	47	58.7	8.84	4.70	0.994	7834	17	46	08
	4	18	35	53.35	25	44	33.9	8.79	4.68	1.000	7215	17	45	05
	5	18	38	47.10	25	40	56.6	8.74	4.65	.006	6716	17	44	03
	6	18	41	41.41	25	37	06.5	8.68	4.62	.012	6337	17	43	01
	7	18	44	36.24	-25	33	03.7	8.63	4.59	1.018	6076	17	42	00
	8	18	47	31.57	25	28	47.9	8.58	4.57	.024	5932	17	40	59
	9	18	50	27.38	25	24	19.3	8.53	4.54	.030	5907	17	39	58
	10	18	53	23.64	25	19	37.6	8.48	4.51	.036	5998	17	38	58
	11	18	56	20.35	25	14	42.7	8.43	4.49	.042	6203	17	37	59
	12	18	59	17.47	-25	09	34.8	8.39	4.46	1.048	6519	17	37	00
	13	19	02	14.98	25	04	13.6	8.34	4.44	.054	6946	17	36	01
	14	19	05	12.86	24	58	39.2	8.29	4.41	.060	7479	17	35	03
	15	19	08	11.07	24	52	51.5	8.24	4.39	.066	8117	17	34	05
	16	19	11	09.60	24	46	50.6	8.20	4.36	.072	8857	17	33	07
	17	19	14	08.42	-24	40	36.4	8.15	4.34	1.078	9701	17	32	09
	18	19	17	07.49	24	34	09.0	8.10	4.31	.085	0645	17	31	12
	19	19	20	06.78	24	27	28.2	8.06	4.29	.091	1694	17	30	15
	20	19	23	06.28	24	20	34.3	8.01	4.27	.097	2845	17	29	18
	21	19	26	05.94	24	13	27.1	7.97	4.24	.103	4104	17	28	21
	22	19	29	05.76	-24	06	06.7	7.93	4.22	1.109	5471	17	27	25
	23	19	32	05.70	23	58	33.1	7.88	4.19	.115	6952	17	26	28
	24	19	35	05.75	23	50	46.3	7.84	4.17	.121	8551	17	25	32
	25	19	38	05.88	23	42	46.5	7.80	4.15	.128	0271	17	24	36
	26	19	41	06.09	23	34	33.6	7.75	4.13	.134	2118	17	23	39
	27	19	44	06.35	-23	26	07.6	7.71	4.10	1.140	4095	17	22	43
	28	19	47	06.65	23	17	28.7	7.67	4.08	.146	6206	17	21	47
	29	19	50	06.97	23	08	36.9	7.63	4.06	.152	8454	17	20	51
	30	19	53	07.30	22	59	32.3	7.59	4.04	.159	0840	17	19	54
	31	19	56	07.63	22	50	14.9	7.55	4.02	.165	3368	17	18	58
NOV.	1	19	59	07.93	-22	40	44.8	7.51	3.99	1.171	6039	17	18	02

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.			
		H	M	S	O . "			"	"	AU		H	M	S	
NOV.	2	20	02	08.19	-22	31	02.0	7.47	3.97	1.177	8852	17	17	06	
	3	20	05	08.40	22	21	06.6	7.43	3.95	.184	1811	17	16	09	
	4	20	08	08.56	22	10	58.7	7.39	3.93	.190	4914	17	15	13	
	5	20	11	08.64	22	00	38.3	7.35	3.91	.196	8160	17	14	16	
	6	20	14	08.63	21	50	05.6	7.31	3.89	.203	1549	17	13	20	
	7	20	17	08.53	-21	39	20.6	7.27	3.87	1.209	5081	17	12	23	
	8	20	20	08.33	21	28	23.4	7.23	3.85	.215	8753	17	11	26	
	9	20	23	08.01	21	17	14.0	7.19	3.83	.222	2560	17	10	29	
	10	20	26	07.56	21	05	52.6	7.16	3.81	.228	6502	17	09	32	
	11	20	29	06.97	20	54	19.3	7.12	3.79	.235	0577	17	08	35	
	12	20	32	06.24	-20	42	34.3	7.08	3.77	1.241	4778	17	07	38	
	13	20	35	05.34	20	30	37.6	7.05	3.75	.247	9103	17	06	40	
	14	20	38	04.25	20	18	29.5	7.01	3.73	.254	3552	17	05	43	
	15	20	41	02.97	20	06	10.0	6.97	3.71	.260	8120	17	04	45	
	16	20	44	01.47	19	53	39.4	6.94	3.69	.267	2809	17	03	46	
	17	20	46	59.74	-19	40	57.7	6.90	3.67	1.273	7618	17	02	48	
	18	20	49	57.78	19	28	05.2	6.87	3.66	.280	2548	17	01	49	
	19	20	52	55.56	19	15	01.9	6.83	3.64	.286	7600	17	00	50	
	20	20	55	53.09	19	01	48.1	6.80	3.62	.293	2778	16	59	51	
	21	20	58	50.35	18	48	23.9	6.77	3.60	.299	8084	16	58	52	
	22	21	01	47.34	-18	34	49.4	6.73	3.58	1.306	3521	16	57	52	
	23	21	04	44.06	18	21	04.8	6.70	3.56	.312	9090	16	56	52	
	24	21	07	40.49	18	07	10.3	6.66	3.55	.319	4798	16	55	52	
	25	21	10	36.63	17	53	06.0	6.63	3.53	.326	0643	16	54	51	
	26	21	13	32.49	17	38	52.1	6.60	3.51	.332	6629	16	53	50	
	27	21	16	28.04	-17	24	28.8	6.57	3.49	1.339	2758	16	52	49	
	28	21	19	23.30	17	09	56.2	6.53	3.48	.345	9031	16	51	48	
	29	21	22	18.26	16	55	14.5	6.50	3.46	.352	5448	16	50	46	
	30	21	25	12.92	16	40	23.7	6.47	3.44	.359	2010	16	49	44	
	DEC.	1	21	28	07.27	16	25	24.1	6.44	3.43	.365	8716	16	48	41
		2	21	31	01.32	-16	10	15.9	6.41	3.41	1.372	5567	16	47	39
3		21	33	55.07	15	54	59.1	6.38	3.39	.379	2560	16	46	36	
4		21	36	48.52	15	39	34.0	6.35	3.38	.385	9694	16	45	33	
5		21	39	41.66	15	24	00.6	6.31	3.36	.392	6967	16	44	29	
6		21	42	34.51	15	08	19.1	6.28	3.34	.399	4375	16	43	25	
7		21	45	27.06	-14	52	29.7	6.25	3.33	1.406	1916	16	42	21	
8		21	48	19.33	14	36	32.6	6.22	3.31	.412	9585	16	41	17	
9		21	51	11.29	14	20	27.9	6.19	3.30	.419	7378	16	40	12	
10		21	54	02.96	14	04	15.8	6.16	3.28	.426	5287	16	39	07	
11		21	56	54.34	13	47	56.5	6.14	3.27	.433	3310	16	38	01	
12		21	59	45.41	-13	31	30.3	6.11	3.25	1.440	1441	16	36	56	
13		22	02	36.18	13	14	57.3	6.08	3.23	.446	9677	16	35	50	
14		22	05	26.63	12	58	17.7	6.05	3.22	.453	8014	16	34	43	
15		22	08	16.78	12	41	31.7	6.02	3.20	.460	6450	16	33	37	
16		22	11	06.61	12	24	39.6	5.99	3.19	.467	4985	16	32	30	
17		22	13	56.14	-12	07	41.5	5.96	3.17	1.474	3618	16	31	23	
18		22	16	45.36	11	50	37.6	5.94	3.16	.481	2349	16	30	15	
19		22	19	34.27	11	33	28.1	5.91	3.14	.488	1178	16	29	08	
20		22	22	22.88	11	16	13.1	5.88	3.13	.495	0109	16	27	59	
21		22	25	11.18	10	58	53.0	5.86	3.12	.501	9141	16	26	51	
22		22	27	59.20	-10	41	27.8	5.83	3.10	1.508	8274	16	25	42	
23		22	30	46.91	10	23	57.8	5.80	3.09	.515	7511	16	24	33	
24		22	33	34.34	10	06	23.1	5.78	3.07	.522	6850	16	23	24	
25		22	36	21.48	9	48	44.0	5.75	3.06	.529	6293	16	22	15	
26		22	39	08.33	9	31	00.5	5.72	3.05	.536	5840	16	21	05	
27		22	41	54.92	-9	13	13.0	5.70	3.03	1.543	5490	16	19	55	
28		22	44	41.23	8	55	21.4	5.67	3.02	.550	5242	16	18	44	
29		22	47	27.27	8	37	26.0	5.65	3.00	.557	5095	16	17	34	
30		22	50	13.06	8	19	27.0	5.62	2.99	.564	5048	16	16	23	
31		22	52	58.60	8	01	24.5	5.60	2.98	.571	5097	16	15	12	

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	''			AU		H	M	S
JAN.	1	22	55	43.90	-	7 43 18.7	5.57	2.96	1.578	5240	16	14	00
	2	22	58	28.96		7 25 09.7	5.55	2.95	.585	5474	16	12	49
	3	23	01	13.81		7 06 57.7	5.52	2.94	.592	5797	16	11	37
	4	23	03	58.43		6 48 42.8	5.50	2.93	.599	6202	16	10	25
	5	23	06	42.85		6 30 25.2	5.47	2.91	.606	6685	16	09	13
	6	23	09	27.07	-	6 12 05.1	5.45	2.90	1.613	7239	16	08	00
	7	23	12	11.09		5 53 42.6	5.43	2.89	.620	7856	16	06	48
	8	23	14	54.92		5 35 18.0	5.40	2.87	.627	8533	16	05	35
	9	23	17	38.56		5 16 51.5	5.38	2.86	.634	9260	16	04	22
	10	23	20	22.00		4 58 23.1	5.36	2.85	.642	0032	16	03	09
	11	23	23	05.27	-	4 39 53.3	5.33	2.84	1.649	0842	16	01	55
	12	23	25	48.35		4 21 22.0	5.31	2.83	.656	1689	16	00	42
	13	23	28	31.26		4 02 49.6	5.29	2.81	.663	2568	15	59	28
	14	23	31	13.99		3 44 16.1	5.26	2.80	.670	3477	15	58	14
	15	23	33	56.57		3 25 41.8	5.24	2.79	.677	4413	15	57	00
	16	23	36	38.98	-	3 07 06.9	5.22	2.78	1.684	5376	15	55	46
	17	23	39	21.25		2 48 31.5	5.20	2.77	.691	6365	15	54	32
	18	23	42	03.36		2 29 55.8	5.18	2.75	.698	7380	15	53	17
	19	23	44	45.34		2 11 20.0	5.16	2.74	.705	8420	15	52	03
	20	23	47	27.18		1 52 44.2	5.13	2.73	.712	9485	15	50	48
	21	23	50	08.89	-	1 34 08.7	5.11	2.72	1.720	0573	15	49	33
	22	23	52	50.47		1 15 33.5	5.09	2.71	.727	1682	15	48	18
	23	23	55	31.95		0 56 58.9	5.07	2.70	.734	2814	15	47	03
	24	23	58	13.31		0 38 25.0	5.05	2.69	.741	3966	15	45	48
	25	0	00	54.57		0 19 51.9	5.03	2.68	.748	5135	15	44	32
	26	0	03	35.74	-	0 01 19.8	5.01	2.67	1.755	6322	15	43	17
	27	0	06	16.83	+	0 17 11.2	4.99	2.65	.762	7523	15	42	02
	28	0	08	57.85		0 35 40.9	4.97	2.64	.769	8734	15	40	46
	29	0	11	38.80		0 54 09.2	4.95	2.63	.776	9954	15	39	30
	30	0	14	19.70		1 12 35.9	4.93	2.62	.784	1177	15	38	15
FEB.	31	0	17	00.56	+	1 31 01.0	4.91	2.61	1.791	2401	15	36	59
	1	0	19	41.39		1 49 24.2	4.89	2.60	.798	3619	15	35	44
	2	0	22	22.19		2 07 45.5	4.87	2.59	.805	4825	15	34	28
	3	0	25	02.97		2 26 04.7	4.85	2.58	.812	6013	15	33	12
	4	0	27	43.74		2 44 21.7	4.83	2.57	.819	7176	15	31	56
	5	0	30	24.51	+	3 02 36.2	4.81	2.56	1.826	8306	15	30	41
	6	0	33	05.27		3 20 48.1	4.80	2.55	.833	9394	15	29	25
	7	0	35	46.04		3 38 57.2	4.78	2.54	.841	0432	15	28	09
	8	0	38	26.81		3 57 03.5	4.76	2.53	.848	1415	15	26	53
	9	0	41	07.60		4 15 06.6	4.74	2.52	.855	2336	15	25	38
	10	0	43	48.41	+	4 33 06.5	4.72	2.51	1.862	3190	15	24	22
	11	0	46	29.24		4 51 02.9	4.70	2.50	.869	3973	15	23	07
	12	0	49	10.11		5 08 55.8	4.69	2.49	.876	4681	15	21	51
	13	0	51	51.01		5 26 45.0	4.67	2.48	.883	5313	15	20	35
	14	0	54	31.95		5 44 30.3	4.65	2.48	.890	5866	15	19	20
	15	0	57	12.94	+	6 02 11.5	4.63	2.47	1.897	6339	15	18	04
	16	0	59	53.98		6 19 48.6	4.62	2.46	.904	6731	15	16	49
	17	1	02	35.07		6 37 21.3	4.60	2.45	.911	7038	15	15	34
	18	1	05	16.22		6 54 49.6	4.58	2.44	.918	7260	15	14	18
	19	1	07	57.44		7 12 13.3	4.57	2.43	.925	7396	15	13	03
	20	1	10	38.73	+	7 29 32.2	4.55	2.42	1.932	7444	15	11	48
	21	1	13	20.09		7 46 46.1	4.53	2.41	.939	7399	15	10	33
	22	1	16	01.54		8 03 55.1	4.52	2.40	.946	7265	15	09	18
	23	1	18	43.09		8 20 59.0	4.50	2.40	.953	7036	15	08	03
	24	1	21	24.73		8 37 57.5	4.49	2.39	.960	6711	15	06	48
	25	1	24	06.48	+	8 54 50.7	4.47	2.38	1.967	6285	15	05	34
	26	1	26	48.35		9 11 38.4	4.45	2.37	.974	5756	15	04	19
	27	1	29	30.34		9 28 20.5	4.44	2.36	.981	5122	15	03	05
	28	1	32	12.46		9 44 56.9	4.42	2.35	.988	4377	15	01	50
MAR.	1	1	34	54.73		10 01 27.4	4.41	2.35	1.995	3515	15	00	36
	2	1	37	37.14	+10	17 51.9	4.39	2.34	2.002	2531	14	59	22

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"			AU		H	M	S
MAR.	3	1	40	19.70	+10	34	10.4	4.38	2.33	2.009	1419	14	58	08
	4	1	43	02.42	10	50	22.7	4.36	2.32	.016	0171	14	56	55
	5	1	45	45.29	11	06	28.6	4.35	2.31	.022	8778	14	55	41
	6	1	48	28.33	11	22	28.0	4.33	2.31	.029	7233	14	54	28
	7	1	51	11.53	11	38	20.7	4.32	2.30	.036	5529	14	53	15
	8	1	53	54.91	+11	54	06.7	4.30	2.29	2.043	3655	14	52	02
	9	1	56	38.45	12	09	45.7	4.29	2.28	.050	1607	14	50	49
	10	1	59	22.18	12	25	17.7	4.28	2.28	.056	9377	14	49	36
	11	2	02	06.09	12	40	42.5	4.26	2.27	.063	6960	14	48	24
	12	2	04	50.18	12	56	00.0	4.25	2.26	.070	4352	14	47	11
	13	2	07	34.45	+13	11	10.0	4.23	2.25	2.077	1551	14	45	59
	14	2	10	18.91	13	26	12.5	4.22	2.25	.083	8552	14	44	47
	15	2	13	03.56	13	41	07.3	4.21	2.24	.090	5355	14	43	36
	16	2	15	48.39	13	55	54.3	4.19	2.23	.097	1957	14	42	24
	17	2	18	33.42	14	10	33.3	4.18	2.22	.103	8355	14	41	13
	18	2	21	18.63	+14	25	04.3	4.17	2.22	2.110	4550	14	40	01
	19	2	24	04.03	14	39	27.0	4.15	2.21	.117	0536	14	38	51
	20	2	26	49.63	14	53	41.5	4.14	2.20	.123	6315	14	37	40
APR.	21	2	29	35.42	15	07	47.5	4.13	2.20	.130	1884	14	36	29
	22	2	32	21.42	15	21	45.0	4.12	2.19	.136	7242	14	35	19
	23	2	35	07.62	+15	35	33.9	4.10	2.18	2.143	2385	14	34	09
	24	2	37	54.02	15	49	14.0	4.09	2.18	.149	7315	14	32	59
	25	2	40	40.64	16	02	45.3	4.08	2.17	.156	2025	14	31	49
	26	2	43	27.48	16	16	07.7	4.07	2.16	.162	6515	14	30	39
	27	2	46	14.53	16	29	21.2	4.05	2.16	.169	0781	14	29	30
	28	2	49	01.81	+16	42	25.5	4.04	2.15	2.175	4819	14	28	21
	29	2	51	49.31	16	55	20.6	4.03	2.14	.181	8627	14	27	12
	30	2	54	37.03	17	08	06.5	4.02	2.14	.188	2194	14	26	03
	31	2	57	24.99	17	20	43.0	4.01	2.13	.194	5519	14	24	55
	1	3	00	13.17	17	33	10.0	4.00	2.13	.200	8592	14	23	47
	2	3	03	01.57	+17	45	27.4	3.98	2.12	2.207	1407	14	22	39
	3	3	05	50.21	17	57	35.1	3.97	2.11	.213	3956	14	21	31
	4	3	08	39.07	18	09	32.9	3.96	2.11	.219	6231	14	20	24
	5	3	11	28.15	18	21	20.9	3.95	2.10	.225	8225	14	19	16
	6	3	14	17.47	18	32	58.8	3.94	2.10	.231	9929	14	18	09
	7	3	17	07.01	+18	44	26.6	3.93	2.09	2.238	1337	14	17	03
	8	3	19	56.77	18	55	44.2	3.92	2.09	.244	2444	14	15	56
	9	3	22	46.76	19	06	51.5	3.91	2.08	.250	3244	14	14	50
	10	3	25	36.96	19	17	48.4	3.90	2.07	.256	3734	14	13	43
	11	3	28	27.37	19	28	34.8	3.89	2.07	.262	3911	14	12	37
	12	3	31	17.99	+19	39	10.6	3.88	2.06	2.268	3773	14	11	32
	13	3	34	08.81	19	49	35.8	3.87	2.06	.274	3316	14	10	26
	14	3	36	59.83	19	59	50.1	3.86	2.05	.280	2540	14	09	21
	15	3	39	51.04	20	09	53.7	3.85	2.05	.286	1443	14	08	15
	16	3	42	42.44	20	19	46.3	3.84	2.04	.292	0022	14	07	11
	17	3	45	34.03	+20	29	27.9	3.83	2.04	2.297	8275	14	06	06
	18	3	48	25.80	20	38	58.4	3.82	2.03	.303	6203	14	05	01
	19	3	51	17.75	20	48	17.7	3.81	2.03	.309	3804	14	03	57
	20	3	54	09.88	20	57	25.9	3.80	2.02	.315	1076	14	02	52
	21	3	57	02.19	21	06	22.7	3.79	2.02	.320	8019	14	01	48
	22	3	59	54.68	+21	15	08.2	3.78	2.01	2.326	4629	14	00	44
	23	4	02	47.34	21	23	42.3	3.77	2.01	.332	0907	13	59	41
	24	4	05	40.17	21	32	04.9	3.76	2.00	.337	6851	13	58	37
	25	4	08	33.17	21	40	16.1	3.75	2.00	.343	2455	13	57	34
	26	4	11	26.34	21	48	15.7	3.74	1.99	.348	7718	13	56	30
	27	4	14	19.66	+21	56	03.8	3.74	1.99	2.354	2633	13	55	27
	28	4	17	13.14	22	03	40.1	3.73	1.98	.359	7196	13	54	24
	29	4	20	06.77	22	11	04.8	3.72	1.98	.365	1401	13	53	22
	30	4	23	00.55	22	18	17.6	3.71	1.97	.370	5239	13	52	19
MAY	1	4	25	54.47	22	25	18.6	3.70	1.97	.375	8705	13	51	16
	2	4	28	48.52	+22	32	07.7	3.69	1.97	2.381	1791	13	50	14

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	° ' "			"	"	AU		H	M	S
MAY	3	4	31	42.70	+22	38	44.9	3.68	1.96	2.386	4491	13	49	12
	4	4	34	37.02	22	45	10.0	3.68	1.96	.391	6795	13	48	10
	5	4	37	31.45	22	51	23.0	3.67	1.95	.396	8700	13	47	08
	6	4	40	25.99	22	57	24.0	3.66	1.95	.402	0198	13	46	06
	7	4	43	20.64	23	03	12.8	3.65	1.94	.407	1284	13	45	04
	8	4	46	15.39	+23	08	49.5	3.65	1.94	2.412	1955	13	44	02
	9	4	49	10.21	23	14	14.1	3.64	1.94	.417	2205	13	43	01
	10	4	52	05.12	23	19	26.3	3.63	1.93	.422	2034	13	41	59
	11	4	55	00.08	23	24	26.4	3.62	1.93	.427	1441	13	40	57
	12	4	57	55.10	23	29	14.1	3.62	1.92	.432	0420	13	39	56
	13	5	00	50.17	+23	33	49.5	3.61	1.92	2.436	8974	13	38	55
	14	5	03	45.27	23	38	12.6	3.60	1.92	.441	7097	13	37	53
	15	5	06	40.40	23	42	23.3	3.59	1.91	.446	4791	13	36	52
	16	5	09	35.56	23	46	21.6	3.59	1.91	.451	2055	13	35	50
	17	5	12	30.73	23	50	07.6	3.58	1.91	.455	8885	13	34	49
	18	5	15	25.91	+23	53	41.1	3.57	1.90	2.460	5284	13	33	48
	19	5	18	21.09	23	57	02.2	3.57	1.90	.465	1250	13	32	46
20	5	21	16.28	24	00	10.9	3.56	1.89	.469	6784	13	31	45	
21	5	24	11.45	24	03	07.2	3.55	1.89	.474	1883	13	30	44	
22	5	27	06.60	24	05	51.1	3.55	1.89	.478	6549	13	29	42	
23	5	30	01.74	+24	08	22.6	3.54	1.88	2.483	0776	13	28	41	
24	5	32	56.84	24	10	41.8	3.54	1.88	.487	4564	13	27	40	
25	5	35	51.90	24	12	48.6	3.53	1.88	.491	7908	13	26	38	
26	5	38	46.92	24	14	43.0	3.52	1.87	.496	0804	13	25	37	
27	5	41	41.88	24	16	25.0	3.52	1.87	.500	3247	13	24	35	
28	5	44	36.79	+24	17	54.7	3.51	1.87	2.504	5230	13	23	33	
29	5	47	31.62	24	19	12.0	3.51	1.87	.508	6745	13	22	32	
30	5	50	26.39	24	20	16.9	3.50	1.86	.512	7787	13	21	30	
31	5	53	21.07	24	21	09.4	3.49	1.86	.516	8351	13	20	28	
JUNE	1	5	56	15.67	24	21	49.6	3.49	1.86	.520	8428	13	19	26
	2	5	59	10.17	+24	22	17.5	3.48	1.85	2.524	8014	13	18	24
	3	6	02	04.57	24	22	33.2	3.48	1.85	.528	7100	13	17	22
	4	6	04	58.85	24	22	36.5	3.47	1.85	.532	5685	13	16	19
	5	6	07	53.01	24	22	27.7	3.47	1.85	.536	3763	13	15	17
	6	6	10	47.03	24	22	06.7	3.46	1.84	.540	1330	13	14	14
	7	6	13	40.90	+24	21	33.6	3.46	1.84	2.543	8385	13	13	12
	8	6	16	34.61	24	20	48.3	3.45	1.84	.547	4924	13	12	09
	9	6	19	28.15	24	19	51.0	3.45	1.83	.551	0947	13	11	06
	10	6	22	21.51	24	18	41.7	3.44	1.83	.554	6450	13	10	02
	11	6	25	14.69	24	17	20.3	3.44	1.83	.558	1435	13	08	59
	12	6	28	07.68	+24	15	47.0	3.43	1.83	2.561	5899	13	07	55
	13	6	31	00.46	24	14	01.9	3.43	1.82	.564	9843	13	06	52
	14	6	33	53.03	24	12	04.8	3.42	1.82	.568	3264	13	05	48
	15	6	36	45.40	24	09	56.0	3.42	1.82	.571	6165	13	04	43
	16	6	39	37.54	24	07	35.4	3.42	1.82	.574	8544	13	03	39
	17	6	42	29.45	+24	05	03.2	3.41	1.82	2.578	0401	13	02	34
18	6	45	21.14	24	02	19.3	3.41	1.81	.581	1738	13	01	29	
19	6	48	12.59	23	59	23.9	3.40	1.81	.584	2556	13	00	24	
20	6	51	03.79	23	56	17.0	3.40	1.81	.587	2851	12	59	18	
21	6	53	54.75	23	52	58.7	3.40	1.81	.590	2624	12	58	13	
22	6	56	45.45	+23	49	29.1	3.39	1.80	2.593	1873	12	57	07	
23	6	59	35.88	23	45	48.1	3.39	1.80	.596	0590	12	56	01	
24	7	02	26.05	23	41	55.9	3.38	1.80	.598	8775	12	54	54	
25	7	05	15.96	23	37	52.5	3.38	1.80	.601	6421	12	53	47	
26	7	08	05.59	23	33	37.9	3.38	1.80	.604	3522	12	52	40	
27	7	10	54.94	+23	29	12.2	3.37	1.80	2.607	0072	12	51	33	
28	7	13	44.02	23	24	35.5	3.37	1.79	.609	6065	12	50	25	
29	7	16	32.81	23	19	47.9	3.37	1.79	.612	1495	12	49	18	
30	7	19	21.32	23	14	49.4	3.36	1.79	.614	6356	12	48	09	
JULY	1	7	22	09.52	23	09	40.1	3.36	1.79	.617	0644	12	47	01
	2	7	24	57.43	+23	04	20.1	3.36	1.79	2.619	4353	12	45	52

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"	"	"	AU		H	M	S
JULY	3	7	27	45.02	+22	58	49.6	3.35	1.79	2.621	7481	12	44	43
	4	7	30	32.30	22	53	08.5	3.35	1.78	.624	0023	12	43	34
	5	7	33	19.26	22	47	17.0	3.35	1.78	.626	1978	12	42	24
	6	7	36	05.88	22	41	15.2	3.35	1.78	.628	3341	12	41	14
	7	7	38	52.17	22	35	03.1	3.34	1.78	.630	4113	12	40	04
	8	7	41	38.12	+22	28	40.9	3.34	1.78	2.632	4293	12	38	53
	9	7	44	23.72	22	22	08.5	3.34	1.78	.634	3878	12	37	42
	10	7	47	08.98	22	15	26.2	3.34	1.78	.636	2869	12	36	30
	11	7	49	53.88	22	08	33.9	3.33	1.77	.638	1265	12	35	19
	12	7	52	38.43	22	01	31.8	3.33	1.77	.639	9066	12	34	06
	13	7	55	22.63	+21	54	20.0	3.33	1.77	2.641	6273	12	32	54
	14	7	58	06.47	21	46	58.6	3.33	1.77	.643	2886	12	31	41
AUG.	15	8	00	49.95	21	39	27.6	3.32	1.77	.644	8908	12	30	28
	16	8	03	33.07	21	31	47.2	3.32	1.77	.646	4338	12	29	14
	17	8	06	15.83	21	23	57.5	3.32	1.77	.647	9178	12	28	00
	18	8	08	58.23	+21	15	58.6	3.32	1.77	2.649	3429	12	26	46
	19	8	11	40.26	21	07	50.5	3.32	1.77	.650	7089	12	25	31
	20	8	14	21.92	20	59	33.3	3.32	1.76	.652	0159	12	24	16
	21	8	17	03.22	20	51	07.2	3.31	1.76	.653	2636	12	23	01
	22	8	19	44.15	20	42	32.2	3.31	1.76	.654	4515	12	21	45
	23	8	22	24.72	+20	33	48.3	3.31	1.76	2.655	5794	12	20	29
	24	8	25	04.93	20	24	55.7	3.31	1.76	.656	6466	12	19	13
	25	8	27	44.78	20	15	54.4	3.31	1.76	.657	6527	12	17	56
	26	8	30	24.27	20	06	44.5	3.31	1.76	.658	5972	12	16	39
	27	8	33	03.41	19	57	26.2	3.31	1.76	.659	4793	12	15	21
AUG.	28	8	35	42.19	+19	47	59.6	3.31	1.76	2.660	2987	12	14	03
	29	8	38	20.61	19	38	24.6	3.30	1.76	.661	0549	12	12	45
	30	8	40	58.67	19	28	41.6	3.30	1.76	.661	7476	12	11	26
	31	8	43	36.36	19	18	50.5	3.30	1.76	.662	3762	12	10	07
	1	8	46	13.69	19	08	51.5	3.30	1.76	.662	9407	12	08	48
	2	8	48	50.66	+18	58	44.7	3.30	1.76	2.663	4407	12	07	28
	3	8	51	27.25	18	48	30.2	3.30	1.76	.663	8761	12	06	08
	4	8	54	03.48	18	38	08.0	3.30	1.76	.664	2466	12	04	48
	5	8	56	39.34	18	27	38.4	3.30	1.76	.664	5523	12	03	27
	6	8	59	14.84	18	17	01.4	3.30	1.76	.664	7930	12	02	06
	7	9	01	49.97	+18	06	17.0	3.30	1.76	2.664	9688	12	00	44
	8	9	04	24.74	17	55	25.4	3.30	1.76	.665	0798	11	59	23
AUG.	9	9	06	59.15	17	44	26.8	3.30	1.76	.665	1257	11	58	00
	10	9	09	33.21	17	33	21.1	3.30	1.76	.665	1070	11	56	38
	11	9	12	06.90	17	22	08.6	3.30	1.76	.665	0238	11	55	15
	12	9	14	40.25	+17	10	49.3	3.30	1.76	2.664	8760	11	53	51
	13	9	17	13.24	16	59	23.3	3.30	1.76	.664	6641	11	52	28
	14	9	19	45.88	16	47	50.8	3.30	1.76	.664	3879	11	51	04
	15	9	22	18.18	16	36	11.8	3.30	1.76	.664	0481	11	49	39
	16	9	24	50.13	16	24	26.4	3.30	1.76	.663	6446	11	48	15
	17	9	27	21.74	+16	12	34.7	3.30	1.76	2.663	1773	11	46	50
	18	9	29	53.02	16	00	36.9	3.30	1.76	.662	6462	11	45	24
	19	9	32	23.96	15	48	32.9	3.30	1.76	.662	0512	11	43	59
	20	9	34	54.58	15	36	22.9	3.30	1.76	.661	3920	11	42	33
	21	9	37	24.88	15	24	06.9	3.31	1.76	.660	6681	11	41	06
AUG.	22	9	39	54.87	+15	11	45.1	3.31	1.76	2.659	8793	11	39	40
	23	9	42	24.56	14	59	17.4	3.31	1.76	.659	0248	11	38	13
	24	9	44	53.94	14	46	44.1	3.31	1.76	.658	1044	11	36	46
	25	9	47	23.03	14	34	05.2	3.31	1.76	.657	1175	11	35	18
	26	9	49	51.82	14	21	20.8	3.31	1.76	.656	0638	11	33	50
	27	9	52	20.31	+14	08	31.1	3.31	1.76	2.654	9430	11	32	22
	28	9	54	48.50	13	55	36.2	3.31	1.76	.653	7549	11	30	54
	29	9	57	16.41	13	42	36.1	3.32	1.76	.652	4989	11	29	25
	30	9	59	44.03	13	29	31.0	3.32	1.77	.651	1753	11	27	56
	31	10	02	11.36	13	16	20.9	3.32	1.77	.649	7837	11	26	27
	SEPT. 1	10	04	38.41	+13	03	06.0	3.32	1.77	2.648	3241	11	24	57

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	''			AU		H	M	S
SEPT. 2	10	07	05.18	+12	49	46.5	3.32	1.77	2.646	7964	11	23	27
3	10	09	31.67	12	36	22.2	3.32	1.77	.645	2006	11	21	57
4	10	11	57.90	12	22	53.5	3.33	1.77	.643	5369	11	20	27
5	10	14	23.86	12	09	20.3	3.33	1.77	.641	8051	11	18	56
6	10	16	49.55	11	55	42.9	3.33	1.77	.640	0058	11	17	25
7	10	19	14.99	+11	42	01.2	3.33	1.77	2.638	1387	11	15	54
8	10	21	40.18	11	28	15.4	3.34	1.78	.636	2043	11	14	23
9	10	24	05.13	11	14	25.5	3.34	1.78	.634	2030	11	12	31
10	10	26	29.82	11	00	31.8	3.34	1.78	.632	1349	11	11	19
11	10	28	54.28	10	46	34.3	3.34	1.78	.630	0003	11	09	47
12	10	31	18.50	+10	32	33.0	3.35	1.78	2.627	7995	11	08	15
13	10	33	42.49	10	18	28.1	3.35	1.78	.625	5329	11	06	42
14	10	36	06.26	10	04	19.7	3.35	1.78	.623	2006	11	05	10
15	10	38	29.81	9	50	07.9	3.36	1.79	.620	8028	11	03	37
16	10	40	53.14	9	35	52.6	3.36	1.79	.618	3393	11	02	03
17	10	43	16.28	+ 9	21	34.0	3.36	1.79	2.615	8103	11	00	30
18	10	45	39.23	9	07	12.2	3.37	1.79	.613	2154	10	58	56
19	10	48	01.99	8	52	47.1	3.37	1.79	.610	5543	10	57	23
20	10	50	24.58	8	38	19.0	3.37	1.79	.607	8267	10	55	49
21	10	52	46.99	8	23	47.9	3.38	1.80	.605	0323	10	54	15
22	10	55	09.24	+ 8	09	13.9	3.38	1.80	2.602	1707	10	52	40
23	10	57	31.32	7	54	37.1	3.38	1.80	.599	2418	10	51	06
24	10	59	53.24	7	39	57.7	3.39	1.80	.596	2451	10	49	31
25	11	02	15.01	7	25	15.7	3.39	1.80	.593	1807	10	47	56
26	11	04	36.63	7	10	31.2	3.40	1.81	.590	0482	10	46	22
27	11	06	58.09	+ 6	55	44.3	3.40	1.81	2.586	8476	10	44	47
28	11	09	19.42	6	40	55.2	3.40	1.81	.583	5790	10	43	11
29	11	11	40.60	6	26	03.9	3.41	1.81	.580	2423	10	41	36
30	11	14	01.66	6	11	10.5	3.41	1.82	.576	8375	10	40	01
OCT. 1	11	16	22.58	5	56	15.1	3.42	1.82	.573	3648	10	38	25
2	11	18	43.39	+ 5	41	17.9	3.42	1.82	2.569	8242	10	36	49
3	11	21	04.07	5	26	18.8	3.43	1.82	.566	2161	10	35	14
4	11	23	24.65	5	11	18.1	3.43	1.83	.562	5405	10	33	38
5	11	25	45.12	4	56	15.8	3.44	1.83	.558	7979	10	32	02
6	11	28	05.48	4	41	11.9	3.44	1.83	.554	9887	10	30	25
7	11	30	25.75	+ 4	26	06.7	3.45	1.83	2.551	1131	10	28	49
8	11	32	45.93	4	11	00.3	3.45	1.84	.547	1718	10	27	13
9	11	35	06.01	3	55	52.6	3.46	1.84	.543	1651	10	25	36
10	11	37	26.02	3	40	43.8	3.46	1.84	.539	0935	10	24	00
11	11	39	45.94	3	25	34.0	3.47	1.85	.534	9574	10	22	23
12	11	42	05.79	+ 3	10	23.3	3.47	1.85	2.530	7571	10	20	47
13	11	44	25.58	2	55	11.7	3.48	1.85	.526	4932	10	19	10
14	11	46	45.31	2	39	59.3	3.49	1.86	.522	1657	10	17	33
15	11	49	05.00	2	24	46.1	3.49	1.86	.517	7746	10	15	57
16	11	51	24.66	2	09	32.3	3.50	1.86	.513	3201	10	14	20
17	11	53	44.29	+ 1	54	17.9	3.51	1.87	2.508	8020	10	12	43
18	11	56	03.89	1	39	03.0	3.51	1.87	.504	2203	10	11	06
19	11	58	23.48	1	23	47.7	3.52	1.87	.499	5747	10	09	29
20	12	00	43.06	1	08	32.1	3.52	1.88	.494	8652	10	07	52
21	12	03	02.64	0	53	16.3	3.53	1.88	.490	0915	10	06	16
22	12	05	22.21	+ 0	38	00.3	3.54	1.88	2.485	2536	10	04	39
23	12	07	41.78	0	22	44.4	3.55	1.89	.480	3513	10	03	02
24	12	10	01.36	+ 0	07	28.5	3.55	1.89	.475	3847	10	01	25
25	12	12	20.95	- 0	07	47.2	3.56	1.89	.470	3539	9	59	48
26	12	14	40.56	0	23	02.6	3.57	1.90	.465	2589	9	58	11
27	12	17	00.19	- 0	38	17.6	3.57	1.90	2.460	0999	9	56	34
28	12	19	19.85	0	53	32.1	3.58	1.91	.454	8769	9	54	58
29	12	21	39.54	1	08	46.0	3.59	1.91	.449	5903	9	53	21
30	12	23	59.27	1	23	59.3	3.60	1.91	.444	2402	9	51	44
31	12	26	19.04	1	39	11.7	3.61	1.92	.438	8270	9	50	08
NOV. 1	12	28	38.86	- 1	54	23.3	3.61	1.92	2.433	3512	9	48	31

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.		
	H	M	S	O	'	"	"	"	AU	H	M	S
NOV. 2	12	30	58.72	-	2	09	34.0	3.62	1.93	2.427	8130	9 46 54
3	12	33	18.64		2	24	43.5	3.63	1.93	.422	2131	9 45 18
4	12	35	38.62		2	39	51.9	3.64	1.94	.416	5521	9 43 41
5	12	37	58.66		2	54	59.0	3.65	1.94	.410	8305	9 42 05
6	12	40	18.76		3	10	04.7	3.66	1.95	.405	0492	9 40 29
7	12	42	38.93	-	3	25	08.9	3.67	1.95	2.399	2086	9 38 53
8	12	44	59.18		3	40	11.6	3.67	1.96	.393	3092	9 37 16
9	12	47	19.51		3	55	12.6	3.68	1.96	.387	3518	9 35 40
10	12	49	39.92		4	10	11.9	3.69	1.97	.381	3369	9 34 04
11	12	52	00.44		4	25	09.5	3.70	1.97	.375	2647	9 32 28
12	12	54	21.06	-	4	40	05.2	3.71	1.98	2.369	1358	9 30 53
13	12	56	41.80		4	54	58.9	3.72	1.98	.362	9504	9 29 17
14	12	59	02.66		5	09	50.7	3.73	1.99	.356	7084	9 27 41
15	13	01	23.65		5	24	40.4	3.74	1.99	.350	4104	9 26 06
16	13	03	44.77		5	39	27.9	3.75	2.00	.344	0560	9 24 31
17	13	06	06.03	-	5	54	13.2	3.76	2.00	2.337	6454	9 22 56
18	13	08	27.42		6	08	56.0	3.77	2.01	.331	1786	9 21 21
19	13	10	48.96		6	23	36.4	3.78	2.01	.324	6558	9 19 46
20	13	13	10.65		6	38	14.2	3.79	2.02	.318	0769	9 18 11
21	13	15	32.49		6	52	49.3	3.80	2.02	.311	4421	9 16 36
22	13	17	54.49	-	7	07	21.6	3.82	2.03	2.304	7517	9 15 02
23	13	20	16.64		7	21	51.1	3.83	2.04	.298	0057	9 13 28
24	13	22	38.96		7	36	17.5	3.84	2.04	.291	2047	9 11 54
25	13	25	01.45		7	50	40.9	3.85	2.05	.284	3487	9 10 20
26	13	27	24.12		8	05	01.0	3.86	2.05	.277	4381	9 08 46
27	13	29	46.96	-	8	19	17.9	3.87	2.06	2.270	4734	9 07 13
28	13	32	09.97		8	33	31.4	3.89	2.07	.263	4547	9 05 39
29	13	34	33.17		8	47	41.4	3.90	2.07	.256	3830	9 04 06
30	13	36	56.55		9	01	47.8	3.91	2.08	.249	2585	9 02 33
DEC. 1	13	39	20.12		9	15	50.5	3.92	2.09	.242	0821	9 01 00
2	13	41	43.87	-	9	29	49.4	3.93	2.09	2.234	8546	8 59 28
3	13	44	07.80		9	43	44.4	3.95	2.10	.227	5766	8 57 55
4	13	46	31.93		9	57	35.4	3.96	2.11	.220	2491	8 56 23
5	13	48	56.24		10	11	22.2	3.97	2.11	.212	8728	8 54 51
6	13	51	20.75		10	25	04.9	3.99	2.12	.205	4487	8 53 19
7	13	53	45.46	-10	38	43.2	4.00	2.13	2.197	9772		8 51 47
8	13	56	10.38		10	52	17.3	4.01	2.14	.190	4593	8 50 16
9	13	58	35.52		11	05	46.9	4.03	2.14	.182	8954	8 48 45
10	14	01	00.88		11	19	12.0	4.04	2.15	.175	2863	8 47 13
11	14	03	26.46		11	32	32.5	4.06	2.16	.167	6324	8 45 43
12	14	05	52.28	-11	45	48.4	4.07	2.17	2.159	9340		8 44 12
13	14	08	18.32		11	58	59.6	4.09	2.17	.152	1915	8 42 42
14	14	10	44.61		12	12	05.9	4.10	2.18	.144	4049	8 41 12
15	14	13	11.13		12	25	07.3	4.12	2.19	.136	5750	8 39 42
16	14	15	37.90		12	38	03.6	4.13	2.20	.128	7014	8 38 12
17	14	18	04.91	-12	50	54.9	4.15	2.21	2.120	7847		8 36 43
18	14	20	32.16		13	03	40.9	4.16	2.22	.112	8250	8 35 14
19	14	22	59.66		13	16	21.5	4.18	2.22	.104	8227	8 33 45
20	14	25	27.42		13	28	56.7	4.19	2.23	.096	7780	8 32 16
21	14	27	55.42		13	41	26.4	4.21	2.24	.088	6914	8 30 48
22	14	30	23.68	-13	53	50.5	4.23	2.25	2.080	5631		8 29 20
23	14	32	52.19		14	06	08.8	4.24	2.26	.072	3935	8 27 52
24	14	35	20.96		14	18	21.3	4.26	2.27	.064	1831	8 26 24
25	14	37	49.98		14	30	27.9	4.28	2.28	.055	9324	8 24 57
26	14	40	19.26		14	42	28.4	4.29	2.29	.047	6418	8 23 30
27	14	42	48.79	-14	54	22.9	4.31	2.29	2.039	3120		8 22 03
28	14	45	18.57		15	06	11.2	4.33	2.30	.030	9438	8 20 36
29	14	47	48.61		15	17	53.1	4.35	2.31	.022	5377	8 19 10
30	14	50	18.88		15	29	28.6	4.37	2.32	.014	0950	8 17 44
31	14	52	49.40		15	40	57.6	4.38	2.33	.005	6162	8 16 18

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
		H	M	S	°	'	''	°	'	AU	H M S
JAN.	1	14	55	20.15	-15	52	20.0	4.40	2.34	1.997 1025	8 14 52
	2	14	57	51.15	16	03	35.7	4.42	2.35	.988 5549	8 13 27
	3	15	00	22.39	16	14	44.6	4.44	2.36	.979 9743	8 12 02
	4	15	02	53.88	16	25	46.6	4.46	2.37	.971 3616	8 10 37
	5	15	05	25.61	16	36	41.7	4.48	2.38	.962 7177	8 09 12
	6	15	07	57.60	-16	47	29.9	4.50	2.40	1.954 0434	8 07 48
	7	15	10	29.84	16	58	11.0	4.52	2.41	.945 3393	8 06 24
	8	15	13	02.34	17	08	45.0	4.54	2.42	.936 6060	8 05 00
	9	15	15	35.09	17	19	11.8	4.56	2.43	.927 8441	8 03 36
	10	15	18	08.09	17	29	31.3	4.58	2.44	.919 0542	8 02 13
	11	15	20	41.35	-17	39	43.6	4.60	2.45	1.910 2366	8 00 50
	12	15	23	14.86	17	49	48.3	4.63	2.46	.901 3916	7 59 27
	13	15	25	48.62	17	59	45.6	4.65	2.47	.892 5197	7 58 04
	14	15	28	22.64	18	09	35.3	4.67	2.48	.883 6211	7 56 42
	15	15	30	56.90	18	19	17.3	4.69	2.50	.874 6964	7 55 20
	16	15	33	31.40	-18	28	51.5	4.71	2.51	1.865 7458	7 53 58
	17	15	36	06.16	18	38	17.9	4.74	2.52	.856 7696	7 52 36
	18	15	38	41.15	18	47	36.3	4.76	2.53	.847 7685	7 51 15
	19	15	41	16.39	18	56	46.8	4.78	2.55	.838 7427	7 49 53
	20	15	43	51.86	19	05	49.1	4.81	2.56	.829 6927	7 48 33
	21	15	46	27.57	-19	14	43.3	4.83	2.57	1.820 6189	7 47 12
	22	15	49	03.50	19	23	29.3	4.85	2.58	.811 5219	7 45 51
	23	15	51	39.66	19	32	07.0	4.88	2.60	.802 4023	7 44 31
	24	15	54	16.03	19	40	36.4	4.90	2.61	.793 2606	7 43 11
	25	15	56	52.61	19	48	57.3	4.93	2.62	.784 0974	7 41 51
	26	15	59	29.38	-19	57	09.7	4.95	2.64	1.774 9138	7 40 32
	27	16	02	06.35	20	05	13.5	4.98	2.65	.765 7105	7 39 12
	28	16	04	43.49	20	13	08.7	5.01	2.66	.756 4885	7 37 53
	29	16	07	20.82	20	20	55.2	5.03	2.68	.747 2488	7 36 34
	30	16	09	58.31	20	28	32.8	5.06	2.69	.737 9927	7 35 15
FEB.	31	16	12	35.97	-20	36	01.7	5.09	2.71	1.728 7209	7 33 56
	1	16	15	13.79	20	43	21.7	5.11	2.72	.719 4347	7 32 37
	2	16	17	51.78	20	50	32.8	5.14	2.74	.710 1348	7 31 19
	3	16	20	29.93	20	57	35.0	5.17	2.75	.700 8223	7 30 01
	4	16	23	08.24	21	04	28.2	5.20	2.77	.691 4977	7 28 43
	5	16	25	46.70	-21	11	12.4	5.23	2.78	1.682 1618	7 27 25
	6	16	28	25.31	21	17	47.6	5.26	2.80	.672 8152	7 26 07
	7	16	31	04.06	21	24	13.8	5.29	2.81	.663 4586	7 24 49
	8	16	33	42.96	21	30	30.8	5.32	2.83	.654 0923	7 23 31
	9	16	36	21.98	21	36	38.7	5.35	2.85	.644 7168	7 22 14
	10	16	39	01.14	-21	42	37.4	5.38	2.86	1.635 3324	7 20 57
	11	16	41	40.41	21	48	26.9	5.41	2.88	.625 9397	7 19 40
	12	16	44	19.80	21	54	07.0	5.44	2.90	.616 5392	7 18 23
	13	16	46	59.31	21	59	37.9	5.47	2.91	.607 1309	7 17 06
	14	16	49	38.91	22	04	59.4	5.50	2.93	.597 7155	7 15 49
	15	16	52	18.62	-22	10	11.5	5.54	2.95	1.588 2933	7 14 32
	16	16	54	58.41	22	15	14.2	5.57	2.96	.578 8645	7 13 15
	17	16	57	38.28	22	20	07.5	5.60	2.98	.569 4299	7 11 59
	18	17	00	18.23	22	24	51.3	5.64	3.00	.559 9897	7 10 42
	19	17	02	58.24	22	29	25.6	5.67	3.02	.550 5444	7 09 26
	20	17	05	38.30	-22	33	50.5	5.71	3.04	1.541 0943	7 08 09
	21	17	08	18.39	22	38	05.9	5.74	3.06	.531 6402	7 06 53
	22	17	10	58.51	22	42	11.8	5.78	3.07	.522 1826	7 05 37
	23	17	13	38.64	22	46	08.3	5.81	3.09	.512 7224	7 04 20
	24	17	16	18.76	22	49	55.2	5.85	3.11	.503 2601	7 03 04
	25	17	18	58.87	-22	53	32.6	5.89	3.13	1.493 7970	7 01 47
	26	17	21	38.94	22	57	00.4	5.92	3.15	.484 3337	7 00 31
	27	17	24	18.97	23	00	18.7	5.96	3.17	.474 8715	6 59 15
	28	17	26	58.96	23	03	27.6	6.00	3.19	.465 4114	6 57 58
MAR.	1	17	29	38.90	23	06	26.9	6.04	3.21	.455 9544	6 56 42
	2	17	32	18.78	-23	09	16.8	6.08	3.24	1.446 5014	6 55 25

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"			AU		H	M	S
MAR.	3	17	34	58.59	-23	11	57.3	6.12	3.26	1.437	0533	6	54	08
	4	17	37	38.32	23	14	28.4	6.16	3.28	.427	6108	6	52	51
	5	17	40	17.98	23	16	50.2	6.20	3.30	.418	1748	6	51	35
	6	17	42	57.54	23	19	02.7	6.24	3.32	.408	7456	6	50	18
	7	17	45	37.00	23	21	05.8	6.28	3.34	.399	3239	6	49	01
	8	17	48	16.36	-23	22	59.7	6.33	3.37	1.389	9101	6	47	43
	9	17	50	55.60	23	24	44.4	6.37	3.39	.380	5047	6	46	26
	10	17	53	34.71	23	26	19.8	6.41	3.41	.371	1079	6	45	09
	11	17	56	13.70	23	27	46.0	6.46	3.44	.361	7203	6	43	51
	12	17	58	52.54	23	29	03.0	6.50	3.46	.352	3422	6	42	33
	13	18	01	31.22	-23	30	10.9	6.55	3.48	1.342	9740	6	41	16
	14	18	04	09.75	23	31	09.7	6.59	3.51	.333	6157	6	39	58
	15	18	06	48.11	23	31	59.5	6.64	3.53	.324	2679	6	38	39
	16	18	09	26.29	23	32	40.3	6.69	3.56	.314	9309	6	37	21
	17	18	12	04.28	23	33	12.1	6.74	3.58	.305	6049	6	36	03
	18	18	14	42.06	-23	33	35.1	6.78	3.61	1.296	2902	6	34	44
	19	18	17	19.63	23	33	49.3	6.83	3.64	.286	9874	6	33	25
	20	18	19	56.96	23	33	54.8	6.88	3.66	.277	6967	6	32	06
	21	18	22	34.03	23	33	51.6	6.93	3.69	.268	4185	6	30	46
	22	18	25	10.85	23	33	39.9	6.98	3.72	.259	1533	6	29	26
	23	18	27	47.38	-23	33	19.7	7.04	3.74	1.249	9018	6	28	06
	24	18	30	23.60	23	32	51.1	7.09	3.77	.240	6646	6	26	46
	25	18	32	59.51	23	32	14.2	7.14	3.80	.231	4424	6	25	25
	26	18	35	35.08	23	31	29.0	7.20	3.83	.222	2362	6	24	04
	27	18	38	10.31	23	30	35.7	7.25	3.86	.213	0470	6	22	43
	28	18	40	45.18	-23	29	34.4	7.30	3.89	1.203	8755	6	21	21
	29	18	43	19.68	23	28	25.2	7.36	3.92	.194	7227	6	19	59
	30	18	45	53.82	23	27	08.1	7.42	3.95	.185	5899	6	18	37
	31	18	48	27.56	23	25	43.4	7.47	3.98	.176	4775	6	17	14
	APR. 1	18	51	00.92	23	24	11.1	7.53	4.01	.167	3862	6	15	51
	2	18	53	33.86	-23	22	31.4	7.59	4.04	1.158	3169	6	14	27
	3	18	56	06.40	23	20	44.3	7.65	4.07	.149	2700	6	13	03
	4	18	58	38.51	23	18	49.9	7.71	4.10	.140	2461	6	11	39
	5	19	01	10.19	23	16	48.4	7.77	4.14	.131	2454	6	10	14
	6	19	03	41.42	23	14	39.8	7.84	4.17	.122	2684	6	08	48
	7	19	06	12.20	-23	12	24.3	7.90	4.20	1.113	3155	6	07	23
	8	19	08	42.52	23	10	02.0	7.96	4.24	.104	3868	6	05	56
	9	19	11	12.37	23	07	32.9	8.03	4.27	.095	4828	6	04	30
	10	19	13	41.74	23	04	57.3	8.09	4.31	.086	6036	6	03	02
	11	19	16	10.62	23	02	15.2	8.16	4.34	.077	7494	6	01	35
	12	19	18	38.99	-22	59	26.9	8.23	4.38	1.068	9207	6	00	06
	13	19	21	06.85	22	56	32.3	8.30	4.41	.060	1175	5	58	38
	14	19	23	34.18	22	53	31.7	8.36	4.45	.051	3399	5	57	08
	15	19	26	00.97	22	50	25.3	8.43	4.49	.042	5883	5	55	39
	16	19	28	27.19	22	47	13.2	8.51	4.53	.033	8627	5	54	08
	17	19	30	52.83	-22	43	55.6	8.58	4.57	1.025	1637	5	52	37
	18	19	33	17.88	22	40	32.6	8.65	4.60	.016	4914	5	51	06
	19	19	35	42.31	22	37	04.5	8.73	4.64	1.007	8464	5	49	33
	20	19	38	06.10	22	33	31.4	8.80	4.68	0.999	2289	5	48	01
	21	19	40	29.24	22	29	53.5	8.88	4.72	.990	6395	5	46	27
	22	19	42	51.69	-22	26	11.1	8.95	4.77	0.982	0792	5	44	53
	23	19	45	13.45	22	22	24.2	9.03	4.81	.973	5482	5	43	18
	24	19	47	34.50	22	18	33.1	9.11	4.85	.965	0477	5	41	43
	25	19	49	54.82	22	14	38.1	9.19	4.89	.956	5786	5	40	06
	26	19	52	14.40	22	10	39.2	9.27	4.94	.948	1416	5	38	29
	27	19	54	33.23	-22	06	36.7	9.36	4.98	0.939	7377	5	36	51
	28	19	56	51.29	22	02	30.9	9.44	5.02	.931	3676	5	35	13
	29	19	59	08.56	21	58	21.9	9.53	5.07	.923	0321	5	33	34
	30	20	01	25.05	21	54	09.8	9.61	5.12	.914	7318	5	31	53
MAY	1	20	03	40.72	21	49	55.0	9.70	5.16	.906	4673	5	30	12
	2	20	05	55.58	-21	45	37.6	9.79	5.21	0.898	2390	5	28	31

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	''			''	''	AU	H	M
MAY	3	20	08	09.61	-21	41	17.8	9.88	5.26	0.890	0474	5	26	48
	4	20	10	22.79	21	36	55.7	9.97	5.31	.881	8927	5	25	05
	5	20	12	35.12	21	32	31.6	10.06	5.36	.873	7753	5	23	20
	6	20	14	46.57	21	28	05.6	10.16	5.41	.865	6957	5	21	35
	7	20	16	57.14	21	23	38.1	10.25	5.46	.857	6538	5	19	49
	8	20	19	06.81	-21	19	09.1	10.35	5.51	0.849	6502	5	18	02
	9	20	21	15.57	21	14	39.0	10.45	5.56	.841	6849	5	16	14
	10	20	23	23.39	21	10	07.9	10.55	5.61	.833	7583	5	14	26
	11	20	25	30.27	21	05	36.1	10.65	5.67	.825	8704	5	12	36
	12	20	27	36.18	21	01	03.9	10.75	5.72	.818	0215	5	10	45
	13	20	29	41.09	-20	56	31.5	10.85	5.78	0.810	2118	5	08	53
	14	20	31	44.99	20	51	59.2	10.96	5.83	.802	4415	5	07	01
	15	20	33	47.85	20	47	27.3	11.07	5.89	.794	7110	5	05	07
	16	20	35	49.63	20	42	56.1	11.17	5.95	.787	0203	5	03	12
	17	20	37	50.31	20	38	25.8	11.28	6.00	.779	3703	5	01	16
	18	20	39	49.86	-20	33	56.8	11.39	6.06	0.771	7611	4	59	19
	19	20	41	48.26	20	29	29.3	11.51	6.12	.764	1936	4	57	21
20	20	43	45.46	20	25	03.8	11.62	6.19	.756	6683	4	55	21	
21	20	45	41.45	20	20	40.4	11.74	6.25	.749	1859	4	53	21	
22	20	47	36.19	20	16	19.6	11.86	6.31	.741	7477	4	51	19	
23	20	49	29.65	-20	12	01.5	11.98	6.37	0.734	3544	4	49	16	
24	20	51	21.82	20	07	46.6	12.10	6.44	.727	0068	4	47	11	
25	20	53	12.66	20	03	35.0	12.22	6.50	.719	7062	4	45	05	
26	20	55	02.15	19	59	27.2	12.34	6.57	.712	4535	4	42	58	
27	20	56	50.26	19	55	23.4	12.47	6.64	.705	2495	4	40	50	
28	20	58	36.96	-19	51	24.0	12.60	6.70	0.698	0951	4	38	40	
29	21	00	22.24	19	47	29.0	12.73	6.77	.690	9910	4	36	28	
30	21	02	06.06	19	43	38.9	12.86	6.84	.683	9380	4	34	15	
31	21	03	48.41	19	39	54.0	12.99	6.91	.676	9366	4	32	01	
JUNE	1	21	05	29.25	19	36	14.3	13.13	6.99	.669	9875	4	29	45
	2	21	07	08.56	-19	32	40.4	13.26	7.06	0.663	0912	4	27	28
	3	21	08	46.31	19	29	12.4	13.40	7.13	.656	2482	4	25	09
	4	21	10	22.48	19	25	50.7	13.54	7.21	.649	4592	4	22	49
	5	21	11	57.03	19	22	35.4	13.68	7.28	.642	7246	4	20	27
	6	21	13	29.94	19	19	27.1	13.83	7.36	.636	0449	4	18	03
	7	21	15	01.16	-19	16	25.9	13.97	7.44	0.629	4208	4	15	38
	8	21	16	30.67	19	13	32.1	14.12	7.51	.622	8526	4	13	10
	9	21	17	58.43	19	10	46.3	14.27	7.59	.616	3409	4	10	42
	10	21	19	24.39	19	08	08.5	14.42	7.67	.609	8861	4	08	11
	11	21	20	48.52	19	05	39.3	14.57	7.75	.603	4889	4	05	38
	12	21	22	10.77	-19	03	19.0	14.73	7.84	0.597	1499	4	03	04
	13	21	23	31.07	19	01	08.0	14.88	7.92	.590	8698	4	00	28
	14	21	24	49.40	18	59	06.6	15.04	8.00	.584	6495	3	57	50
	15	21	26	05.69	18	57	15.2	15.20	8.09	.578	4899	3	55	09
	16	21	27	19.89	18	55	34.2	15.36	8.18	.572	3922	3	52	27
	17	21	28	31.96	-18	54	03.9	15.53	8.26	0.566	3575	3	49	42
18	21	29	41.84	18	52	44.7	15.69	8.35	.560	3872	3	46	56	
19	21	30	49.49	18	51	36.9	15.86	8.44	.554	4827	3	44	07	
20	21	31	54.85	18	50	40.8	16.03	8.53	.548	6453	3	41	15	
21	21	32	57.88	18	49	56.7	16.20	8.62	.542	8769	3	38	22	
22	21	33	58.53	-18	49	25.0	16.37	8.71	0.537	1788	3	35	26	
23	21	34	56.75	18	49	05.8	16.54	8.80	.531	5527	3	32	28	
24	21	35	52.51	18	48	59.4	16.72	8.90	.526	0001	3	29	27	
25	21	36	45.76	18	49	05.8	16.89	8.99	.520	5227	3	26	24	
26	21	37	36.47	18	49	25.5	17.07	9.09	.515	1216	3	23	18	
27	21	38	24.59	-18	49	58.4	17.25	9.18	0.509	7985	3	20	09	
28	21	39	10.09	18	50	44.7	17.43	9.28	.504	5547	3	16	58	
29	21	39	52.93	18	51	44.5	17.61	9.37	.499	3914	3	13	45	
30	21	40	33.08	18	52	57.9	17.79	9.47	.494	3100	3	10	28	
JULY	1	21	41	10.49	18	54	25.0	17.97	9.56	.489	3120	3	07	09
	2	21	41	45.14	-18	56	05.9	18.15	9.66	0.484	3985	3	03	48

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
		H	M	S	°	'	"				
JULY	3	21	42	17.00	-18	58	00.6	18.34	9.76	0.479 5709	3 00 23
	4	21	42	46.02	19	00	09.2	18.52	9.86	.474 8306	2 56 56
	5	21	43	12.18	19	02	31.6	18.70	9.95	.470 1787	2 53 25
	6	21	43	35.44	19	05	07.8	18.89	10.05	.465 6168	2 49 52
	7	21	43	55.76	19	07	58.0	19.07	10.15	.461 1460	2 46 16
	8	21	44	13.12	-19	11	01.9	19.25	10.25	0.456 7677	2 42 37
	9	21	44	27.47	19	14	19.6	19.43	10.34	.452 4834	2 38 55
	10	21	44	38.79	19	17	51.0	19.62	10.44	.448 2945	2 35 10
	11	21	44	47.04	19	21	36.0	19.80	10.54	.444 2026	2 31 22
	12	21	44	52.18	19	25	34.4	19.98	10.63	.440 2096	2 27 31
	13	21	44	54.20	-19	29	46.0	20.16	10.73	0.436 3172	2 23 37
	14	21	44	53.07	19	34	10.7	20.33	10.82	.432 5275	2 19 40
	15	21	44	48.78	19	38	48.0	20.51	10.91	.428 8424	2 15 39
	16	21	44	41.31	19	43	37.7	20.68	11.00	.425 2644	2 11 35
	17	21	44	30.68	19	48	39.2	20.85	11.10	.421 7954	2 07 29
	18	21	44	16.89	-19	53	52.1	21.02	11.18	0.418 4379	2 03 19
	19	21	43	59.96	19	59	15.8	21.18	11.27	.415 1942	1 59 06
	20	21	43	39.90	20	04	49.7	21.34	11.36	.412 0663	1 54 50
	21	21	43	16.77	20	10	33.0	21.50	11.44	.409 0565	1 50 31
	22	21	42	50.60	20	16	24.9	21.65	11.52	.406 1669	1 46 08
	23	21	42	21.46	-20	22	24.6	21.80	11.60	0.403 3995	1 41 43
	24	21	41	49.41	20	28	31.2	21.94	11.68	.400 7559	1 37 15
	25	21	41	14.53	20	34	43.8	22.08	11.75	.398 2380	1 32 45
	26	21	40	36.91	20	41	01.3	22.22	11.82	.395 8474	1 28 11
AUG.	27	21	39	56.62	20	47	22.7	22.34	11.89	.393 5854	1 23 35
	28	21	39	13.79	-20	53	47.1	22.46	11.96	0.391 4537	1 18 56
	29	21	38	28.51	21	00	13.3	22.58	12.02	.389 4533	1 14 15
	30	21	37	40.91	21	06	40.3	22.69	12.07	.387 5853	1 09 32
	31	21	36	51.10	21	13	07.0	22.79	12.13	.385 8510	1 04 46
	1	21	35	59.23	21	19	32.3	22.89	12.18	.384 2510	0 59 59
	2	21	35	05.42	-21	25	55.1	22.97	12.23	0.382 7864	0 55 09
	3	21	34	09.82	21	32	14.3	23.05	12.27	.381 4576	0 50 18
	4	21	33	12.57	21	38	28.9	23.13	12.31	.380 2655	0 45 25
	5	21	32	13.82	21	44	37.9	23.19	12.34	.379 2105	0 40 31
	6	21	31	13.73	21	50	40.1	23.25	12.37	.378 2928	0 35 35
	7	21	30	12.44	-21	56	34.8	23.29	12.40	0.377 5130	0 30 38
	8	21	29	10.12	22	02	20.8	23.33	12.42	.376 8713	0 25 41
	9	21	28	06.93	22	07	57.2	23.37	12.43	.376 3683	0 20 42
	10	21	27	03.04	22	13	23.1	23.39	12.45	.376 0044	0 15 42
	11	21	25	58.62	22	18	37.6	23.40	12.45	.375 7799	0 10 43
	12	21	24	53.86	-22	23	39.7	23.41	12.46	0.375 6952	0 05 42
	13	21	23	48.95	22	28	28.7	23.40	12.46	.375 7505	0 00 42
	14	21	22	44.06	22	33	03.5	23.39	12.45	.375 9462	23 50 41
	15	21	21	39.42	22	37	23.5	23.37	12.44	.376 2822	23 45 42
	16	21	20	35.19	22	41	27.8	23.34	12.42	.376 7583	23 40 42
	17	21	19	31.60	-22	45	15.5	23.30	12.40	0.377 3743	23 35 44
	18	21	18	28.84	22	48	46.3	23.26	12.38	.378 1296	23 30 47
	19	21	17	27.10	22	51	59.3	23.20	12.35	.379 0236	23 25 51
	20	21	16	26.58	22	54	53.9	23.14	12.31	.380 0553	23 20 56
	21	21	15	27.47	22	57	29.7	23.07	12.28	.381 2235	23 16 03
	22	21	14	29.96	-22	59	46.3	22.99	12.23	0.382 5270	23 11 12
	23	21	13	34.22	23	01	43.2	22.90	12.19	.383 9644	23 06 22
	24	21	12	40.42	23	03	20.3	22.81	12.14	.385 5342	23 01 35
	25	21	11	48.73	23	04	37.2	22.71	12.09	.387 2346	22 56 50
	26	21	10	59.29	23	05	34.0	22.60	12.03	.389 0638	22 52 07
	27	21	10	12.22	-23	06	10.4	22.49	11.97	0.391 0199	22 47 26
	28	21	09	27.69	23	06	26.6	22.37	11.91	.393 1010	22 42 49
	29	21	08	45.78	23	06	22.5	22.25	11.84	.395 3049	22 38 14
	30	21	08	06.62	23	05	58.4	22.12	11.77	.397 6296	22 33 42
	31	21	07	30.29	23	05	14.2	21.98	11.70	.400 0730	22 29 12
SEPT.	1	21	06	56.87	-23	04	10.5	21.84	11.62	0.402 6328	22 24 46

DATE	APPT. R.A.	APPT. DEC.	H.P.	S.D.	T.D.	E.T.
	H M S	° ' "	°	' "	AU	H M S
SEPT. 2	21 06 26.43	-23 02 47.2	21.70	11.55	0.405 3069	22 20 23
3	21 05 59.04	23 01 04.8	21.55	11.47	.408 0932	22 16 02
4	21 05 34.72	22 59 03.5	21.40	11.39	.410 9897	22 11 45
5	21 05 13.53	22 56 43.8	21.24	11.30	.413 9943	22 07 31
6	21 04 55.49	22 54 06.0	21.08	11.22	.417 1056	22 03 20
7	21 04 40.63	-22 51 10.3	20.92	11.13	0.420 3215	21 59 12
8	21 04 28.97	22 47 57.1	20.76	11.05	.423 6406	21 55 08
9	21 04 20.52	22 44 26.8	20.59	10.96	.427 0614	21 51 06
10	21 04 15.31	22 40 39.7	20.42	10.87	.430 5824	21 47 08
11	21 04 13.33	22 36 36.0	20.25	10.78	.434 2022	21 43 13
12	21 04 14.60	-22 32 16.1	20.08	10.69	0.437 9194	21 39 21
13	21 04 19.13	22 27 40.3	19.91	10.59	.441 7322	21 35 33
14	21 04 26.91	22 22 48.7	19.73	10.50	.445 6391	21 31 48
15	21 04 37.92	22 17 41.7	19.56	10.41	.449 6385	21 28 06
16	21 04 52.17	22 12 19.6	19.38	10.31	.453 7286	21 24 27
17	21 05 09.64	-22 06 42.6	19.20	10.22	0.457 9076	21 20 51
18	21 05 30.29	22 00 51.0	19.03	10.13	.462 1738	21 17 18
19	21 05 54.12	21 54 45.0	18.85	10.03	.466 5254	21 13 49
20	21 06 21.10	21 48 24.9	18.67	9.94	.470 9604	21 10 23
21	21 06 51.18	21 41 50.9	18.50	9.84	.475 4771	21 06 59
22	21 07 24.32	-21 35 03.4	18.32	9.75	0.480 0737	21 03 39
23	21 08 00.49	21 28 02.6	18.14	9.65	.484 7484	21 00 22
24	21 08 39.65	21 20 48.8	17.97	9.56	.489 4993	20 57 07
25	21 09 21.73	21 13 22.3	17.79	9.47	.494 3247	20 53 56
26	21 10 06.69	21 05 43.3	17.62	9.37	.499 2230	20 50 47
27	21 10 54.46	-20 57 52.0	17.44	9.28	0.504 1925	20 47 41
28	21 11 44.99	20 49 48.8	17.27	9.19	.509 2315	20 44 38
29	21 12 38.21	20 41 34.0	17.10	9.10	.514 3385	20 41 37
30	21 13 34.06	20 33 07.8	16.93	9.01	.519 5119	20 38 39
OCT. 1	21 14 32.47	20 24 30.5	16.76	8.92	.524 7503	20 35 43
2	21 15 33.37	-20 15 42.2	16.59	8.83	0.530 0527	20 32 50
3	21 16 36.70	20 06 43.3	16.42	8.74	.535 4178	20 29 59
4	21 17 42.39	19 57 34.0	16.26	8.65	.540 8447	20 27 11
5	21 18 50.37	19 48 14.4	16.10	8.57	.546 3325	20 24 24
6	21 20 00.58	19 38 44.8	15.93	8.48	.551 8806	20 21 40
7	21 21 12.97	-19 29 05.4	15.77	8.39	0.557 4884	20 18 58
8	21 22 27.47	19 19 16.2	15.62	8.31	.563 1554	20 16 18
9	21 23 44.05	19 09 17.4	15.46	8.23	.568 8808	20 13 40
10	21 25 02.63	18 59 09.1	15.30	8.14	.574 6644	20 11 04
11	21 26 23.19	18 48 51.5	15.15	8.06	.580 5053	20 08 30
12	21 27 45.65	-18 38 24.6	15.00	7.98	0.586 4030	20 05 58
13	21 29 09.99	18 27 48.6	14.85	7.90	.592 3568	20 03 27
14	21 30 36.15	18 17 03.4	14.70	7.82	.598 3656	20 00 59
15	21 32 04.10	18 06 09.1	14.55	7.74	.604 4287	19 58 32
16	21 33 33.78	17 55 05.9	14.40	7.67	.610 5456	19 56 07
17	21 35 05.15	-17 43 53.9	14.26	7.59	0.616 7151	19 53 43
18	21 36 38.18	17 32 33.1	14.12	7.51	.622 9363	19 51 21
19	21 38 12.80	17 21 03.5	13.98	7.44	.629 2083	19 49 01
20	21 39 48.99	17 09 25.4	13.84	7.36	.635 5302	19 46 42
21	21 41 26.69	16 57 38.8	13.70	7.29	.641 9011	19 44 24
22	21 43 05.87	-16 45 43.9	13.56	7.22	0.648 3202	19 42 08
23	21 44 46.47	16 33 40.7	13.43	7.15	.654 7864	19 39 54
24	21 46 28.46	16 21 29.4	13.30	7.08	.661 2990	19 37 41
25	21 48 11.79	16 09 10.1	13.17	7.01	.667 8570	19 35 29
26	21 49 56.40	15 56 43.0	13.04	6.94	.674 4596	19 33 18
27	21 51 42.27	-15 44 08.2	12.91	6.87	0.681 1060	19 31 08
28	21 53 29.33	15 31 25.8	12.79	6.80	.687 7953	19 29 00
29	21 55 17.55	15 18 36.1	12.66	6.74	.694 5269	19 26 53
30	21 57 06.89	15 05 39.1	12.54	6.67	.701 3003	19 24 47
31	21 58 57.30	14 52 35.0	12.42	6.61	.708 1150	19 22 41
NOV. 1	22 00 48.73	-14 39 23.9	12.30	6.55	0.714 9703	19 20 37

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	O	'	"			AU		H	M	S
NOV.	2	22	02	41.16	-14	26	05.9	12.18	6.48	0.721	8665	19	18	34
	3	22	04	34.55	14	12	41.3	12.07	6.42	.728	8030	19	16	32
	4	22	06	28.86	13	59	10.1	11.95	6.36	.735	7798	19	14	31
	5	22	08	24.06	13	45	32.3	11.84	6.30	.742	7970	19	12	30
	6	22	10	20.13	13	31	48.3	11.73	6.24	.749	8542	19	10	30
	7	22	12	17.03	-13	17	57.9	11.62	6.18	0.756	9517	19	08	32
	8	22	14	14.74	13	04	01.4	11.51	6.12	.764	0894	19	06	33
	9	22	16	13.25	12	49	58.7	11.40	6.07	.771	2668	19	04	36
	10	22	18	12.51	12	35	49.9	11.30	6.01	.778	4838	19	02	40
	11	22	20	12.53	12	21	35.2	11.19	5.96	.785	7399	19	00	44
	12	22	22	13.27	-12	07	14.6	11.09	5.90	0.793	0347	18	58	49
	13	22	24	14.72	11	52	48.1	10.99	5.85	.800	3676	18	56	54
	14	22	26	16.86	11	38	15.8	10.89	5.79	.807	7383	18	55	01
	15	22	28	19.68	11	23	37.9	10.79	5.74	.815	1461	18	53	08
	16	22	30	23.15	11	08	54.4	10.69	5.69	.822	5906	18	51	15
	17	22	32	27.26	-10	54	05.5	10.59	5.64	0.830	0711	18	49	23
	18	22	34	31.99	10	39	11.2	10.50	5.59	.837	5869	18	47	32
	19	22	36	37.32	10	24	11.6	10.41	5.54	.845	1374	18	45	41
	20	22	38	43.23	10	09	06.9	10.31	5.49	.852	7219	18	43	51
	21	22	40	49.71	9	53	57.2	10.22	5.44	.860	3397	18	42	02
	22	22	42	56.73	-9	38	42.6	10.13	5.39	0.867	9903	18	40	13
	23	22	45	04.27	9	23	23.4	10.04	5.34	.875	6728	18	38	24
	24	22	47	12.32	9	07	59.5	9.95	5.30	.883	3866	18	36	36
	25	22	49	20.86	8	52	31.3	9.87	5.25	.891	1312	18	34	49
	26	22	51	29.86	8	36	58.8	9.78	5.21	.898	9059	18	33	02
	27	22	53	39.32	-8	21	22.2	9.70	5.16	0.906	7103	18	31	15
	28	22	55	49.20	8	05	41.7	9.62	5.12	.914	5438	18	29	29
	29	22	57	59.50	7	49	57.3	9.53	5.07	.922	4064	18	27	43
	30	23	00	10.20	7	34	09.3	9.45	5.03	.930	2978	18	25	58
DEC.	1	23	02	21.29	7	18	17.8	9.37	4.99	.938	2179	18	24	13
	2	23	04	32.75	-7	02	22.9	9.29	4.95	0.946	1666	18	22	28
	3	23	06	44.57	6	46	24.7	9.22	4.90	.954	1437	18	20	44
	4	23	08	56.74	6	30	23.4	9.14	4.86	.962	1495	18	19	00
	5	23	11	09.25	6	14	19.2	9.06	4.82	.970	1839	18	17	16
	6	23	13	22.09	5	58	12.0	8.99	4.78	.978	2468	18	15	33
	7	23	15	35.25	-5	42	02.1	8.92	4.74	0.986	3379	18	13	50
	8	23	17	48.74	5	25	49.4	8.84	4.71	0.994	4574	18	12	07
	9	23	20	02.54	5	09	34.2	8.77	4.67	1.002	6045	18	10	24
	10	23	22	16.66	4	53	16.4	8.70	4.63	.010	7792	18	08	42
	11	23	24	31.10	4	36	56.2	8.63	4.59	.018	9809	18	07	01
	12	23	26	45.84	-4	20	33.7	8.56	4.56	1.027	2091	18	05	19
	13	23	29	00.89	4	04	08.9	8.49	4.52	.035	4634	18	03	38
	14	23	31	16.24	3	47	42.0	8.43	4.48	.043	7431	18	01	57
	15	23	33	31.90	3	31	13.2	8.36	4.45	.052	0479	18	00	17
	16	23	35	47.85	3	14	42.5	8.29	4.41	.060	3769	17	58	36
	17	23	38	04.10	-2	58	10.0	8.23	4.38	1.068	7296	17	56	56
	18	23	40	20.63	2	41	35.9	8.16	4.34	.077	1052	17	55	17
	19	23	42	37.45	2	25	00.3	8.10	4.31	.085	5031	17	53	37
	20	23	44	54.56	2	08	23.3	8.04	4.28	.093	9225	17	51	58
	21	23	47	11.93	1	51	45.2	7.98	4.25	.102	3626	17	50	19
	22	23	49	29.57	-1	35	06.0	7.92	4.21	1.110	8226	17	48	41
	23	23	51	47.48	1	18	25.9	7.86	4.18	.119	3021	17	47	02
	24	23	54	05.64	1	01	45.1	7.80	4.15	.127	8002	17	45	24
	25	23	56	24.05	0	45	03.7	7.74	4.12	.136	3165	17	43	46
	26	23	58	42.71	0	28	21.9	7.68	4.09	.144	8503	17	42	09
	27	0	01	01.61	-0	11	39.8	7.62	4.06	1.153	4016	17	40	31
	28	0	03	20.74	+0	05	02.5	7.57	4.03	.161	9697	17	38	54
	29	0	05	40.11	0	21	44.8	7.51	4.00	.170	5545	17	37	17
	30	0	07	59.71	0	38	26.9	7.46	3.97	.179	1558	17	35	41
	31	0	10	19.54	+0	55	08.7	7.40	3.94	.187	7737	17	34	04

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.			
		H	M	S	°	'	"			"	"	AU	H	M	S
JAN.	1	0	12	39.59	+	1	11	50.2	7.35	3.91	1.196	4078	17	32	28
	2	0	14	59.85		1	28	31.1	7.30	3.88	.205	0582	17	30	52
	3	0	17	20.34		1	45	11.3	7.25	3.86	.213	7247	17	29	16
	4	0	19	41.05		2	01	50.7	7.19	3.83	.222	4072	17	27	40
	5	0	22	01.98		2	18	29.3	7.14	3.80	.231	1055	17	26	05
	6	0	24	23.14	+	2	35	06.9	7.09	3.77	1.239	8192	17	24	30
	7	0	26	44.53		2	51	43.4	7.04	3.75	.248	5477	17	22	55
	8	0	29	06.16		3	08	18.7	6.99	3.72	.257	2909	17	21	20
	9	0	31	28.02		3	24	52.8	6.95	3.70	.266	0481	17	19	46
	10	0	33	50.13		3	41	25.5	6.90	3.67	.274	8189	17	18	12
	11	0	36	12.49	+	3	57	56.7	6.85	3.65	1.283	6026	17	16	38
	12	0	38	35.09		4	14	26.3	6.80	3.62	.292	3987	17	15	04
	13	0	40	57.94		4	30	54.2	6.76	3.60	.301	2065	17	13	31
	14	0	43	21.05		4	47	20.2	6.71	3.57	.310	0255	17	11	58
	15	0	45	44.41		5	03	44.3	6.67	3.55	.318	8546	17	10	25
	16	0	48	08.03	+	5	20	06.3	6.62	3.52	1.327	6933	17	08	52
	17	0	50	31.91		5	36	26.0	6.58	3.50	.336	5406	17	07	20
	18	0	52	56.04		5	52	43.4	6.54	3.48	.345	3957	17	05	48
	19	0	55	20.42		6	08	58.3	6.49	3.46	.354	2579	17	04	16
	20	0	57	45.06		6	25	10.4	6.45	3.43	.363	1262	17	02	44
	21	1	00	09.96	+	6	41	19.9	6.41	3.41	1.371	9999	17	01	13
	22	1	02	35.11		6	57	26.3	6.37	3.39	.380	8785	16	59	41
	23	1	05	00.52		7	13	29.7	6.33	3.37	.389	7612	16	58	11
	24	1	07	26.18		7	29	29.9	6.29	3.35	.398	6477	16	56	40
	25	1	09	52.09		7	45	26.7	6.25	3.32	.407	5375	16	55	10
	26	1	12	18.26	+	8	01	20.0	6.21	3.30	1.416	4303	16	53	39
	27	1	14	44.68		8	17	09.7	6.17	3.28	.425	3258	16	52	10
	28	1	17	11.34		8	32	55.6	6.13	3.26	.434	2239	16	50	40
	29	1	19	38.26		8	48	37.7	6.09	3.24	.443	1242	16	49	11
	30	1	22	05.42		9	04	15.8	6.06	3.22	.452	0268	16	47	41
FEB.	31	1	24	32.83	+	9	19	49.7	6.02	3.20	1.460	9314	16	46	13
	1	1	27	00.50		9	35	19.4	5.98	3.18	.469	8377	16	44	44
	2	1	29	28.43		9	50	44.7	5.95	3.16	.478	7455	16	43	16
	3	1	31	56.62		10	06	05.6	5.91	3.15	.487	6546	16	41	48
	4	1	34	25.07		10	21	21.9	5.88	3.13	.496	5645	16	40	20
	5	1	36	53.80	+10	36	33.7	5.84	3.11	1.505	4749	16	38	52	
	6	1	39	22.81		10	51	40.6	5.81	3.09	.514	3851	16	37	25
	7	1	41	52.10		11	06	42.8	5.77	3.07	.523	2948	16	35	58
	8	1	44	21.67		11	21	40.0	5.74	3.05	.532	2033	16	34	31
	9	1	46	51.54		11	36	32.1	5.71	3.04	.541	1101	16	33	05
	10	1	49	21.70	+11	51	19.1	5.67	3.02	1.550	0147	16	31	39	
	11	1	51	52.15		12	06	00.8	5.64	3.00	.558	9161	16	30	13
	12	1	54	22.90		12	20	37.1	5.61	2.99	.567	8138	16	28	47
	13	1	56	53.95		12	35	07.9	5.58	2.97	.576	7070	16	27	22
	14	1	59	25.31		12	49	33.1	5.55	2.95	.585	5947	16	25	57
	15	2	01	56.96	+13	03	52.6	5.52	2.94	1.594	4761	16	24	33	
	16	2	04	28.92		13	18	06.1	5.48	2.92	.603	3504	16	23	08
	17	2	07	01.18		13	32	13.6	5.45	2.90	.612	2166	16	21	44
	18	2	09	33.74		13	46	15.0	5.42	2.89	.621	0739	16	20	21
	19	2	12	06.61		14	00	10.1	5.40	2.87	.629	9217	16	18	57
	20	2	14	39.79	+14	13	58.9	5.37	2.86	1.638	7591	16	17	34	
	21	2	17	13.27		14	27	41.1	5.34	2.84	.647	5858	16	16	11
	22	2	19	47.04		14	41	16.8	5.31	2.83	.656	4013	16	14	49
	23	2	22	21.12		14	54	45.6	5.28	2.81	.665	2052	16	13	27
	24	2	24	55.49		15	08	07.6	5.25	2.80	.673	9974	16	12	05
	25	2	27	30.14	+15	21	22.7	5.23	2.78	1.682	7774	16	10	43	
	26	2	30	05.09		15	34	30.6	5.20	2.77	.691	5450	16	09	22
	27	2	32	40.33		15	47	31.3	5.17	2.75	.700	3002	16	08	01
	28	2	35	15.86		16	00	24.7	5.15	2.74	.709	0426	16	06	40
29	2	37	51.68		16	13	10.7	5.12	2.72	.717	7721	16	05	20	
MAR.	1	2	40	27.79	+16	25	49.1	5.09	2.71	1.726	4885	16	03	59	

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	"			AU		H	M	S
MAR. 2	2	43	04.20	+16	38	20.0	5.07	2.70	1.735	1916	16	02	40
3	2	45	40.90	16	50	43.1	5.04	2.68	.743	8809	16	01	20
4	2	48	17.91	17	02	58.4	5.02	2.67	.752	5560	16	00	01
5	2	50	55.21	17	15	05.9	4.99	2.66	.761	2166	15	58	42
6	2	53	32.83	17	27	05.4	4.97	2.64	.769	8623	15	57	23
7	2	56	10.75	+17	38	56.9	4.94	2.63	1.778	4926	15	56	05
8	2	58	48.97	17	50	40.2	4.92	2.62	.787	1069	15	54	47
9	3	01	27.50	18	02	15.2	4.90	2.61	.795	7046	15	53	29
10	3	04	06.34	18	13	42.0	4.87	2.59	.804	2854	15	52	11
11	3	06	45.49	18	25	00.3	4.85	2.58	.812	8482	15	50	54
12	3	09	24.94	+18	36	10.0	4.83	2.57	1.821	3926	15	49	37
13	3	12	04.69	18	47	11.1	4.81	2.56	.829	9177	15	48	21
14	3	14	44.75	18	58	03.5	4.78	2.55	.838	4226	15	47	05
15	3	17	25.11	19	08	47.0	4.76	2.53	.846	9065	15	45	49
16	3	20	05.78	19	19	21.6	4.74	2.52	.855	3685	15	44	33
17	3	22	46.74	+19	29	47.1	4.72	2.51	1.863	8078	15	43	18
18	3	25	28.00	19	40	03.5	4.70	2.50	.872	2235	15	42	03
19	3	28	09.55	19	50	10.6	4.68	2.49	.880	6151	15	40	48
20	3	30	51.39	20	00	08.5	4.66	2.48	.888	9819	15	39	34
21	3	33	33.51	20	09	56.9	4.63	2.47	.897	3237	15	38	19
22	3	36	15.90	+20	19	35.8	4.61	2.46	1.905	6399	15	37	05
23	3	38	58.56	20	29	05.1	4.59	2.45	.913	9304	15	35	52
24	3	41	41.47	20	38	24.8	4.57	2.43	.922	1948	15	34	38
25	3	44	24.64	20	47	34.7	4.56	2.42	.930	4331	15	33	25
26	3	47	08.06	20	56	34.7	4.54	2.41	.938	6449	15	32	12
27	3	49	51.72	+21	05	24.7	4.52	2.40	1.946	8303	15	31	00
28	3	52	35.63	21	14	04.8	4.50	2.39	.954	9690	15	29	47
29	3	55	19.78	21	22	34.7	4.48	2.38	.963	1208	15	28	35
30	3	58	04.17	21	30	54.5	4.46	2.37	.971	2255	15	27	23
31	4	00	48.80	21	39	04.1	4.44	2.36	.979	3030	15	26	11
APR. 1	4	03	33.66	+21	47	03.5	4.42	2.35	1.987	3528	15	25	00
2	4	06	18.76	21	54	52.5	4.41	2.35	1.995	3749	15	23	49
3	4	09	04.08	22	02	31.1	4.39	2.34	2.003	3686	15	22	38
4	4	11	49.63	22	09	59.2	4.37	2.33	.011	3338	15	21	27
5	4	14	35.40	22	17	16.9	4.36	2.32	.019	2700	15	20	16
6	4	17	21.39	+22	24	24.0	4.34	2.31	2.027	1767	15	19	06
7	4	20	07.59	22	31	20.4	4.32	2.30	.035	0535	15	17	56
8	4	22	54.00	22	38	06.2	4.30	2.29	.042	8997	15	16	46
9	4	25	40.62	22	44	41.2	4.29	2.28	.050	7148	15	15	36
10	4	28	27.43	22	51	05.4	4.27	2.27	.058	4981	15	14	26
11	4	31	14.44	+22	57	18.7	4.26	2.26	2.066	2488	15	13	17
12	4	34	01.64	23	03	21.0	4.24	2.26	.073	9662	15	12	08
13	4	36	49.02	23	09	12.4	4.22	2.25	.081	6492	15	10	59
14	4	39	36.58	23	14	52.6	4.21	2.24	.089	2973	15	09	50
15	4	42	24.32	23	20	21.8	4.19	2.23	.096	9095	15	08	41
16	4	45	12.22	+23	25	39.9	4.18	2.22	2.104	4854	15	07	33
17	4	48	00.28	23	30	46.7	4.16	2.22	.112	0242	15	06	24
18	4	50	48.48	23	35	42.4	4.15	2.21	.119	5256	15	05	16
19	4	53	36.81	23	40	26.8	4.13	2.20	.126	9892	15	04	08
20	4	56	25.26	23	44	59.9	4.12	2.19	.134	4148	15	03	00
21	4	59	13.82	+23	49	21.7	4.11	2.19	2.141	8022	15	01	52
22	5	02	02.47	23	53	32.1	4.09	2.18	.149	1513	15	00	45
23	5	04	51.23	23	57	31.1	4.08	2.17	.156	4620	14	59	37
24	5	07	40.06	24	01	18.7	4.06	2.16	.163	7340	14	58	29
25	5	10	28.98	24	04	54.8	4.05	2.16	.170	9676	14	57	22
26	5	13	17.97	+24	08	19.3	4.04	2.15	2.178	1623	14	56	14
27	5	16	07.03	24	11	32.4	4.02	2.14	.185	3182	14	55	07
28	5	18	56.15	24	14	34.0	4.01	2.13	.192	4350	14	53	59
29	5	21	45.32	24	17	24.1	4.00	2.13	.199	5126	14	52	52
30	5	24	34.55	24	20	02.6	3.99	2.12	.206	5508	14	51	45
MAY 1	5	27	23.81	+24	22	29.6	3.97	2.11	2.213	5494	14	50	38

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.		
		H	M	S	°	'	''	''	''	AU	H	M	S
MAY	2	5	30	13.11	+24	24	45.0	3.96	2.11	2.220 5082	14	49	31
	3	5	33	02.44	24	26	48.9	3.95	2.10	.227 4268	14	48	23
	4	5	35	51.79	24	28	41.2	3.94	2.09	.234 3048	14	47	16
	5	5	38	41.16	24	30	22.0	3.92	2.09	.241 1421	14	46	09
	6	5	41	30.53	24	31	51.2	3.91	2.08	.247 9379	14	45	02
	7	5	44	19.90	+24	33	08.7	3.90	2.08	2.254 6920	14	43	55
	8	5	47	09.27	24	34	14.7	3.89	2.07	.261 4035	14	42	48
	9	5	49	58.62	24	35	09.0	3.88	2.06	.268 0720	14	41	41
	10	5	52	47.95	24	35	51.8	3.87	2.06	.274 6969	14	40	33
	11	5	55	37.26	24	36	22.9	3.85	2.05	.281 2772	14	39	26
	12	5	58	26.54	+24	36	42.4	3.84	2.05	2.287 8121	14	38	19
	13	6	01	15.78	24	36	50.3	3.83	2.04	.294 3012	14	37	12
	14	6	04	04.97	24	36	46.7	3.82	2.03	.300 7436	14	36	04
	15	6	06	54.10	24	36	31.6	3.81	2.03	.307 1389	14	34	57
	16	6	09	43.16	24	36	04.9	3.80	2.02	.313 4864	14	33	49
	17	6	12	32.13	+24	35	26.8	3.79	2.02	2.319 7861	14	32	42
	18	6	15	21.00	24	34	37.3	3.78	2.01	.326 0377	14	31	34
	19	6	18	09.76	24	33	36.3	3.77	2.01	.332 2408	14	30	26
	20	6	20	58.41	24	32	23.8	3.76	2.00	.338 3956	14	29	18
	21	6	23	46.93	24	31	00.0	3.75	2.00	.344 5020	14	28	10
	22	6	26	35.32	+24	29	24.9	3.74	1.99	2.350 5599	14	27	02
	23	6	29	23.57	24	27	38.4	3.73	1.99	.356 5694	14	25	54
	24	6	32	11.68	24	25	40.6	3.72	1.98	.362 5302	14	24	45
	25	6	34	59.63	24	23	31.6	3.71	1.98	.368 4425	14	23	37
	26	6	37	47.43	24	21	11.4	3.70	1.97	.374 3061	14	22	28
	27	6	40	35.07	+24	18	40.0	3.69	1.97	2.380 1209	14	21	19
	28	6	43	22.54	24	15	57.5	3.69	1.96	.385 8869	14	20	10
	29	6	46	09.83	24	13	04.0	3.68	1.96	.391 6039	14	19	00
	30	6	48	56.94	24	09	59.4	3.67	1.95	.397 2719	14	17	51
	31	6	51	43.87	24	06	43.8	3.66	1.95	.402 8907	14	16	41
JUNE	1	6	54	30.61	+24	03	17.4	3.65	1.94	2.408 4600	14	15	31
	2	6	57	17.14	23	59	40.0	3.64	1.94	.413 9794	14	14	21
	3	7	00	03.48	23	55	51.8	3.63	1.93	.419 4488	14	13	11
	4	7	02	49.60	23	51	52.8	3.63	1.93	.424 8676	14	12	00
	5	7	05	35.52	23	47	43.0	3.62	1.93	.430 2355	14	10	50
	6	7	08	21.22	+23	43	22.5	3.61	1.92	2.435 5518	14	09	39
	7	7	11	06.71	23	38	51.3	3.60	1.92	.440 8160	14	08	28
	8	7	13	51.97	23	34	09.5	3.60	1.91	.446 0275	14	07	16
	9	7	16	37.01	23	29	17.2	3.59	1.91	.451 1855	14	06	05
	10	7	19	21.82	23	24	14.3	3.58	1.91	.456 2894	14	04	53
	11	7	22	06.40	+23	19	01.1	3.57	1.90	2.461 3387	14	03	41
	12	7	24	50.73	23	13	37.6	3.57	1.90	.466 3328	14	02	28
	13	7	27	34.80	23	08	03.8	3.56	1.89	.471 2711	14	01	16
	14	7	30	18.62	23	02	19.8	3.55	1.89	.476 1535	14	00	03
	15	7	33	02.16	22	56	25.8	3.54	1.89	.480 9796	13	58	50
	16	7	35	45.42	+22	50	21.7	3.54	1.88	2.485 7494	13	57	37
	17	7	38	28.41	22	44	07.7	3.53	1.88	.490 4629	13	56	23
	18	7	41	11.10	22	37	43.8	3.52	1.88	.495 1199	13	55	09
	19	7	43	53.51	22	31	10.1	3.52	1.87	.499 7205	13	53	55
	20	7	46	35.63	22	24	26.6	3.51	1.87	.504 2648	13	52	40
	21	7	49	17.45	+22	17	33.5	3.51	1.87	2.508 7527	13	51	25
	22	7	51	58.98	22	10	30.8	3.50	1.86	.513 1844	13	50	10
	23	7	54	40.20	22	03	18.6	3.49	1.86	.517 5597	13	48	55
	24	7	57	21.13	21	55	57.0	3.49	1.86	.521 8787	13	47	39
	25	8	00	01.76	21	48	26.0	3.48	1.85	.526 1414	13	46	23
	26	8	02	42.08	+21	40	45.8	3.48	1.85	2.530 3478	13	45	07
	27	8	05	22.09	21	32	56.5	3.47	1.85	.534 4980	13	43	50
	28	8	08	01.79	21	24	58.0	3.46	1.84	.538 5917	13	42	33
	29	8	10	41.19	21	16	50.5	3.46	1.84	.542 6289	13	41	16
	30	8	13	20.27	21	08	34.1	3.45	1.84	.546 6095	13	39	58
JULY	1	8	15	59.04	+21	00	08.8	3.45	1.83	2.550 5330	13	38	40

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.		
	H	M	S	°	'	"	"	"	AU	H	M	S
JULY	2	8 18	37.50	+20 51	34.6		3.44	1.83	2.554 3994	13 37	22	
	3	8 21	15.66	20 42	51.8		3.44	1.83	.558 2082	13 36	03	
	4	8 23	53.51	20 34	00.2		3.43	1.83	.561 9590	13 34	45	
	5	8 26	31.05	20 25	00.1		3.43	1.82	.565 6511	13 33	26	
	6	8 29	08.29	20 15	51.4		3.42	1.82	.569 2844	13 32	06	
	7	8 31	45.22	+20 06	34.3		3.42	1.82	2.572 8577	13 30	46	
	8	8 34	21.86	19 57	08.9		3.41	1.82	.576 3710	13 29	26	
	9	8 36	58.18	19 47	35.3		3.41	1.81	.579 8234	13 28	06	
	10	8 39	34.20	19 37	53.5		3.40	1.81	.583 2146	13 26	45	
	11	8 42	09.91	19 28	03.8		3.40	1.81	.586 5440	13 25	24	
	12	8 44	45.30	+19 18	06.1		3.40	1.81	2.589 8114	13 24	03	
	13	8 47	20.37	19 08	00.6		3.39	1.80	.593 0165	13 22	42	
	14	8 49	55.13	18 57	47.4		3.39	1.80	.596 1593	13 21	20	
	15	8 52	29.56	18 47	26.5		3.38	1.80	.599 2397	13 19	57	
	16	8 55	03.68	18 36	58.1		3.38	1.80	.602 2576	13 18	35	
	17	8 57	37.48	+18 26	22.2		3.38	1.80	2.605 2133	13 17	12	
	18	9 00	10.96	18 15	39.0		3.37	1.79	.608 1067	13 15	49	
	19	9 02	44.14	18 04	48.5		3.37	1.79	.610 9379	13 14	25	
	20	9 05	17.00	17 53	50.8		3.36	1.79	.613 7070	13 13	02	
	21	9 07	49.55	17 42	46.0		3.36	1.79	.616 4141	13 11	38	
	22	9 10	21.80	+17 31	34.3		3.36	1.79	2.619 0592	13 10	13	
	23	9 12	53.73	17 20	15.6		3.35	1.79	.621 6425	13 08	48	
	24	9 15	25.37	17 08	50.2		3.35	1.78	.624 1641	13 07	23	
	25	9 17	56.71	16 57	18.0		3.35	1.78	.626 6240	13 05	58	
	26	9 20	27.74	16 45	39.2		3.34	1.78	.629 0223	13 04	33	
	27	9 22	58.48	+16 33	53.8		3.34	1.78	2.631 3590	13 03	07	
	28	9 25	28.93	16 22	02.0		3.34	1.78	.633 6340	13 01	40	
	29	9 27	59.09	16 10	03.8		3.34	1.78	.635 8472	13 00	14	
	30	9 30	28.97	15 57	59.3		3.33	1.77	.637 9987	12 58	47	
	31	9 32	58.57	15 45	48.5		3.33	1.77	.640 0877	12 57	20	
AUG.	1	9 35	27.90	+15 33	31.6		3.33	1.77	2.642 1142	12 55	53	
	2	9 37	56.96	15 21	08.5		3.33	1.77	.644 0776	12 54	25	
	3	9 40	25.77	15 08	39.5		3.32	1.77	.645 9776	12 52	58	
	4	9 42	54.32	14 56	04.5		3.32	1.77	.647 8135	12 51	30	
	5	9 45	22.62	14 43	23.8		3.32	1.77	.649 5852	12 50	01	
	6	9 47	50.66	+14 30	37.3		3.32	1.77	2.651 2917	12 48	33	
	7	9 50	18.46	14 17	45.3		3.31	1.76	.652 9330	12 47	04	
	8	9 52	46.01	14 04	47.8		3.31	1.76	.654 5086	12 45	35	
	9	9 55	13.30	13 51	44.9		3.31	1.76	.656 0180	12 44	06	
	10	9 57	40.36	13 38	36.7		3.31	1.76	.657 4614	12 42	36	
	11	10 00	07.17	+13 25	23.3		3.31	1.76	2.658 8383	12 41	06	
	12	10 02	33.74	13 12	04.8		3.31	1.76	.660 1489	12 39	36	
	13	10 05	00.07	12 58	41.4		3.30	1.76	.661 3932	12 38	06	
	14	10 07	26.18	12 45	13.0		3.30	1.76	.662 5712	12 36	36	
	15	10 09	52.05	12 31	39.8		3.30	1.76	.663 6832	12 35	05	
	16	10 12	17.71	+12 18	01.8		3.30	1.76	2.664 7291	12 33	34	
	17	10 14	43.15	12 04	19.3		3.30	1.76	.665 7094	12 32	03	
	18	10 17	08.38	11 50	32.2		3.30	1.76	.666 6239	12 30	31	
	19	10 19	33.39	11 36	40.7		3.30	1.75	.667 4730	12 29	00	
	20	10 21	58.21	11 22	44.8		3.30	1.75	.668 2567	12 27	28	
	21	10 24	22.82	+11 08	44.7		3.29	1.75	2.668 9754	12 25	56	
	22	10 26	47.24	10 54	40.4		3.29	1.75	.669 6292	12 24	24	
	23	10 29	11.47	10 40	32.0		3.29	1.75	.670 2182	12 22	52	
	24	10 31	35.51	10 26	19.6		3.29	1.75	.670 7427	12 21	19	
	25	10 33	59.37	10 12	03.3		3.29	1.75	.671 2025	12 19	47	
	26	10 36	23.07	+ 9 57	43.2		3.29	1.75	2.671 5981	12 18	14	
	27	10 38	46.60	9 43	19.3		3.29	1.75	.671 9290	12 16	41	
	28	10 41	09.97	9 28	51.6		3.29	1.75	.672 1955	12 15	08	
	29	10 43	33.20	9 14	20.3		3.29	1.75	.672 3969	12 13	34	
	30	10 45	56.29	8 59	45.5		3.29	1.75	.672 5329	12 12	01	
	31	10 48	19.26	+ 8 45	07.2		3.29	1.75	2.672 6035	12 10	27	

DATE	APPT. R.A.	APPT. DEC.	H.P.	S.D.	T.D.	E.T.
	H M S	° ' "	°	"	AU	H M S
SEPT. 1	10 50 42.09	+ 8 30 25.5	3.29	1.75	2.672 6081	12 08 54
2	10 53 04.81	8 15 40.5	3.29	1.75	.672 5462	12 07 20
3	10 55 27.40	8 00 52.3	3.29	1.75	.672 4176	12 05 46
4	10 57 49.89	7 46 01.1	3.29	1.75	.672 2218	12 04 12
5	11 00 12.26	7 31 06.9	3.29	1.75	.671 9588	12 02 38
6	11 02 34.52	+ 7 16 09.8	3.29	1.75	2.671 6280	12 01 03
7	11 04 56.69	7 01 09.9	3.29	1.75	.671 2296	11 59 29
8	11 07 18.76	6 46 07.4	3.29	1.75	.670 7633	11 57 55
9	11 09 40.73	6 31 02.3	3.29	1.75	.670 2292	11 56 20
10	11 12 02.63	6 15 54.7	3.29	1.75	.669 6273	11 54 46
11	11 14 24.44	+ 6 00 44.7	3.29	1.75	2.668 9578	11 53 11
12	11 16 46.18	5 45 32.3	3.30	1.75	.668 2210	11 51 36
13	11 19 07.85	5 30 17.8	3.30	1.75	.667 4170	11 50 01
14	11 21 29.46	5 15 01.2	3.30	1.76	.666 5459	11 48 27
15	11 23 51.01	4 59 42.5	3.30	1.76	.665 6083	11 46 52
16	11 26 12.51	+ 4 44 21.9	3.30	1.76	2.664 6041	11 45 17
17	11 28 33.96	4 28 59.4	3.30	1.76	.663 5338	11 43 42
18	11 30 55.37	4 13 35.2	3.30	1.76	.662 3977	11 42 07
19	11 33 16.75	3 58 09.4	3.30	1.76	.661 1959	11 40 31
20	11 35 38.09	3 42 42.0	3.31	1.76	.659 9290	11 38 56
21	11 37 59.42	+ 3 27 13.1	3.31	1.76	2.658 5972	11 37 21
22	11 40 20.72	3 11 42.8	3.31	1.76	.657 2007	11 35 46
23	11 42 42.02	2 56 11.2	3.31	1.76	.655 7398	11 34 11
24	11 45 03.32	2 40 38.3	3.31	1.76	.654 2147	11 32 36
25	11 47 24.64	2 25 04.3	3.32	1.76	.652 6252	11 31 01
26	11 49 45.98	+ 2 09 29.0	3.32	1.77	2.650 9712	11 29 26
27	11 52 07.34	1 53 52.8	3.32	1.77	.649 2528	11 27 51
28	11 54 28.75	1 38 15.6	3.32	1.77	.647 4695	11 26 15
29	11 56 50.20	1 22 37.5	3.32	1.77	.645 6212	11 24 41
30	11 59 11.70	1 06 58.7	3.33	1.77	.643 7075	11 23 06
OCT. 1	12 01 33.25	+ 0 51 19.2	3.33	1.77	2.641 7281	11 21 31
2	12 03 54.86	0 35 39.2	3.33	1.77	.639 6830	11 19 56
3	12 06 16.54	0 19 58.8	3.33	1.77	.637 5717	11 18 21
4	12 08 38.28	+ 0 04 18.0	3.34	1.78	.635 3943	11 16 46
5	12 11 00.10	- 0 11 23.0	3.34	1.78	.633 1506	11 15 12
6	12 13 22.00	- 0 27 04.2	3.34	1.78	2.630 8408	11 13 37
7	12 15 43.98	0 42 45.4	3.35	1.78	.628 4649	11 12 03
8	12 18 06.06	0 58 26.5	3.35	1.78	.626 0231	11 10 29
9	12 20 28.25	1 14 07.5	3.35	1.78	.623 5156	11 08 54
10	12 22 50.53	1 29 48.2	3.36	1.79	.620 9427	11 07 20
11	12 25 12.93	- 1 45 28.6	3.36	1.79	2.618 3047	11 05 46
12	12 27 35.44	2 01 08.5	3.36	1.79	.615 6017	11 04 12
13	12 29 58.07	2 16 47.8	3.37	1.79	.612 8345	11 02 39
14	12 32 20.83	2 32 26.5	3.37	1.79	.610 0032	11 01 05
15	12 34 43.72	2 48 04.4	3.37	1.80	.607 1082	10 59 32
16	12 37 06.75	- 3 03 41.5	3.38	1.80	2.604 1499	10 57 58
17	12 39 29.92	3 19 17.6	3.38	1.80	.601 1289	10 56 25
18	12 41 53.24	3 34 52.6	3.38	1.80	.598 0456	10 54 52
19	12 44 16.71	3 50 26.4	3.39	1.80	.594 9007	10 53 19
20	12 46 40.34	4 05 59.1	3.39	1.81	.591 6943	10 51 46
21	12 49 04.15	- 4 21 30.4	3.40	1.81	2.588 4270	10 50 14
22	12 51 28.15	4 37 00.2	3.40	1.81	.585 0991	10 48 41
23	12 53 52.33	4 52 28.7	3.41	1.81	.581 7108	10 47 09
24	12 56 16.72	5 07 55.5	3.41	1.82	.578 2623	10 45 37
25	12 58 41.31	5 23 20.7	3.42	1.82	.574 7536	10 44 05
26	13 01 06.13	- 5 38 44.2	3.42	1.82	2.571 1846	10 42 34
27	13 03 31.16	5 54 05.8	3.43	1.82	.567 5552	10 41 02
28	13 05 56.42	6 09 25.5	3.43	1.83	.563 8652	10 39 31
29	13 08 21.91	6 24 43.0	3.44	1.83	.560 1147	10 38 01
30	13 10 47.64	6 39 58.3	3.44	1.83	.556 3032	10 36 30
31	13 13 13.61	- 6 55 11.4	3.45	1.83	2.552 4308	10 35 00

DATE	APPT. R.A.	APPT. DEC.	H.P.	S.D.	T.D.	E.T.
	H M S	° ' "	° ' "	° ' "	AU	H M S
NOV. 1	13 15 39.83	- 7 10 22.0	3.45	1.84	2.548 4977	10 33 29
2	13 18 06.31	7 25 30.0	3.46	1.84	.544 5039	10 32 00
3	13 20 33.04	7 40 35.5	3.46	1.84	.540 4494	10 30 30
4	13 23 00.05	7 55 38.1	3.47	1.85	.536 3344	10 29 01
5	13 25 27.32	8 10 37.9	3.47	1.85	.532 1594	10 27 32
6	13 27 54.87	- 8 25 34.7	3.48	1.85	2.527 9246	10 26 03
7	13 30 22.70	8 40 28.5	3.48	1.85	.523 6304	10 24 34
8	13 32 50.81	8 55 19.0	3.49	1.86	.519 2771	10 23 06
9	13 35 19.21	9 10 06.2	3.50	1.86	.514 8652	10 21 38
10	13 37 47.91	9 24 50.0	3.50	1.86	.510 3952	10 20 10
11	13 40 16.90	- 9 39 30.2	3.51	1.87	2.505 8677	10 18 43
12	13 42 46.19	9 54 06.7	3.52	1.87	.501 2832	10 17 16
13	13 45 15.79	10 08 39.5	3.52	1.87	.496 6423	10 15 49
14	13 47 45.69	10 23 08.4	3.53	1.88	.491 9456	10 14 23
15	13 50 15.92	10 37 33.3	3.54	1.88	.487 1937	10 12 57
16	13 52 46.46	-10 51 54.0	3.54	1.89	2.482 3873	10 11 31
17	13 55 17.33	11 06 10.5	3.55	1.89	.477 5271	10 10 05
18	13 57 48.53	11 20 22.7	3.56	1.89	.472 6135	10 08 40
19	14 00 20.08	11 34 30.5	3.56	1.90	.467 6473	10 07 16
20	14 02 51.98	11 48 33.8	3.57	1.90	.462 6288	10 05 51
21	14 05 24.24	-12 02 32.5	3.58	1.90	2.457 5585	10 04 27
22	14 07 56.86	12 16 26.5	3.59	1.91	.452 4366	10 03 03
23	14 10 29.86	12 30 15.7	3.59	1.91	.447 2631	10 01 40
24	14 13 03.23	12 43 59.9	3.60	1.92	.442 0382	10 00 17
25	14 15 36.97	12 57 39.1	3.61	1.92	.436 7620	9 58 55
26	14 18 11.10	-13 11 13.0	3.62	1.92	2.431 4343	9 57 32
27	14 20 45.62	13 24 41.7	3.62	1.93	.426 0552	9 56 11
28	14 23 20.52	13 38 04.8	3.63	1.93	.420 6249	9 54 49
29	14 25 55.82	13 51 22.5	3.64	1.94	.415 1435	9 53 28
30	14 28 31.52	14 04 34.4	3.65	1.94	.409 6112	9 52 07
DEC. 1	14 31 07.62	-14 17 40.5	3.66	1.95	2.404 0282	9 50 47
2	14 33 44.13	14 30 40.6	3.67	1.95	.398 3949	9 49 27
3	14 36 21.05	14 43 34.7	3.68	1.96	.392 7115	9 48 08
4	14 38 58.37	14 56 22.6	3.68	1.96	.386 9787	9 46 49
5	14 41 36.11	15 09 04.2	3.69	1.97	.381 1968	9 45 30
6	14 44 14.25	-15 21 39.4	3.70	1.97	2.375 3665	9 44 12
7	14 46 52.81	15 34 08.0	3.71	1.98	.369 4880	9 42 55
8	14 49 31.79	15 46 29.9	3.72	1.98	.363 5624	9 41 37
9	14 52 11.18	15 58 45.1	3.73	1.99	.357 5899	9 40 20
10	14 54 50.98	16 10 53.2	3.74	1.99	.351 5716	9 39 04
11	14 57 31.20	-16 22 54.4	3.75	2.00	2.345 5078	9 37 48
12	15 00 11.83	16 34 48.3	3.76	2.00	.339 3996	9 36 32
13	15 02 52.89	16 46 34.9	3.77	2.01	.333 2476	9 35 17
14	15 05 34.36	16 58 14.1	3.78	2.01	.327 0526	9 34 02
15	15 08 16.26	17 09 45.7	3.79	2.02	.320 8155	9 32 47
16	15 10 58.59	-17 21 09.7	3.80	2.02	2.314 5371	9 31 33
17	15 13 41.36	17 32 25.9	3.81	2.03	.308 2179	9 30 20
18	15 16 24.56	17 43 34.2	3.82	2.03	.301 8589	9 29 07
19	15 19 08.20	17 54 34.6	3.83	2.04	.295 4603	9 27 54
20	15 21 52.29	18 05 27.0	3.84	2.04	.289 0229	9 26 42
21	15 24 36.81	-18 16 11.1	3.85	2.05	2.282 5470	9 25 30
22	15 27 21.78	18 26 46.9	3.86	2.06	.276 0327	9 24 19
23	15 30 07.20	18 37 14.3	3.87	2.06	.269 4803	9 23 08
24	15 32 53.06	18 47 33.1	3.89	2.07	.262 8900	9 21 57
25	15 35 39.36	18 57 43.1	3.90	2.07	.256 2618	9 20 47
26	15 38 26.10	-19 07 44.4	3.91	2.08	2.249 5960	9 19 38
27	15 41 13.30	19 17 36.6	3.92	2.09	.242 8930	9 18 29
28	15 44 00.93	19 27 19.8	3.93	2.09	.236 1526	9 17 20
29	15 46 49.01	19 36 53.8	3.94	2.10	.229 3756	9 16 12
30	15 49 37.53	19 46 18.5	3.96	2.11	.222 5622	9 15 04
31	15 52 26.49	-19 55 33.8	3.97	2.11	2.215 7130	9 13 56

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	''			AU		H	M	S
JAN. 1	15	55	15.87	-20	04	39.5	3.98	2.12	2.208	8284	9	12	49
2	15	58	05.69	20	13	35.6	3.99	2.13	.201	9089	9	11	43
3	16	00	55.94	20	22	21.9	4.01	2.13	.194	9552	9	10	37
4	16	03	46.60	20	30	58.4	4.02	2.14	.187	9677	9	09	31
5	16	06	37.67	20	39	24.8	4.03	2.15	.180	9473	9	08	26
6	16	09	29.16	-20	47	41.1	4.05	2.15	2.173	8946	9	07	21
7	16	12	21.04	20	55	47.2	4.06	2.16	.166	8104	9	06	16
8	16	15	13.33	21	03	42.9	4.07	2.17	.159	6954	9	05	12
9	16	18	06.01	21	11	28.2	4.09	2.17	.152	5507	9	04	09
10	16	20	59.07	21	19	03.0	4.10	2.18	.145	3770	9	03	05
11	16	23	52.52	-21	26	27.1	4.11	2.19	2.138	1753	9	02	03
12	16	26	46.36	21	33	40.4	4.13	2.20	.130	9464	9	01	00
13	16	29	40.58	21	40	42.9	4.14	2.20	.123	6914	8	59	58
14	16	32	35.17	21	47	34.4	4.16	2.21	.116	4110	8	58	56
15	16	35	30.15	21	54	15.0	4.17	2.22	.109	1057	8	57	55
16	16	38	25.49	-22	00	44.4	4.18	2.23	2.101	7766	8	56	54
17	16	41	21.20	22	07	02.7	4.20	2.23	.094	4242	8	55	53
18	16	44	17.28	22	13	09.7	4.21	2.24	.087	0489	8	54	53
19	16	47	13.71	22	19	05.3	4.23	2.25	.079	6513	8	53	53
20	16	50	10.49	22	24	49.5	4.24	2.26	.072	2315	8	52	53
21	16	53	07.62	-22	30	22.1	4.26	2.27	2.064	7899	8	51	54
22	16	56	05.09	22	35	43.0	4.27	2.27	.057	3267	8	50	55
23	16	59	02.89	22	40	52.1	4.29	2.28	.049	8421	8	49	56
24	17	02	01.03	22	45	49.4	4.31	2.29	.042	3364	8	48	58
25	17	04	59.49	22	50	34.7	4.32	2.30	.034	8098	8	48	00
26	17	07	58.26	-22	55	08.1	4.34	2.31	2.027	2629	8	47	02
27	17	10	57.34	22	59	29.4	4.35	2.32	.019	6959	8	46	05
28	17	13	56.71	23	03	38.6	4.37	2.33	.012	1092	8	45	08
29	17	16	56.38	23	07	35.6	4.39	2.33	2.004	5034	8	44	11
30	17	19	56.31	23	11	20.3	4.40	2.34	1.996	8789	8	43	15
31	17	22	56.51	-23	14	52.7	4.42	2.35	1.989	2366	8	42	19
FEB. 1	17	25	56.97	23	18	12.7	4.44	2.36	.981	5767	8	41	23
2	17	28	57.66	23	21	20.2	4.46	2.37	.973	9000	8	40	27
3	17	31	58.58	23	24	15.2	4.47	2.38	.966	2072	8	39	31
4	17	34	59.72	23	26	57.7	4.49	2.39	.958	4990	8	38	36
5	17	38	01.06	-23	29	27.6	4.51	2.40	1.950	7762	8	37	41
6	17	41	02.60	23	31	44.8	4.53	2.41	.943	0396	8	36	46
7	17	44	04.32	23	33	49.3	4.54	2.42	.935	2903	8	35	51
8	17	47	06.22	23	35	41.1	4.56	2.43	.927	5291	8	34	57
9	17	50	08.29	23	37	20.0	4.58	2.44	.919	7568	8	34	02
10	17	53	10.52	-23	38	46.2	4.60	2.45	1.911	9745	8	33	08
11	17	56	12.90	23	39	59.5	4.62	2.46	.904	1830	8	32	14
12	17	59	15.43	23	41	00.0	4.64	2.47	.896	3830	8	31	20
13	18	02	18.09	23	41	47.6	4.66	2.48	.888	5753	8	30	26
14	18	05	20.87	23	42	22.3	4.68	2.49	.880	7606	8	29	33
15	18	08	23.77	-23	42	44.1	4.70	2.50	1.872	9393	8	28	39
16	18	11	26.78	23	42	53.0	4.71	2.51	.865	1119	8	27	46
17	18	14	29.88	23	42	48.9	4.73	2.52	.857	2788	8	26	52
18	18	17	33.08	23	42	31.8	4.75	2.53	.849	4402	8	25	59
19	18	20	36.35	23	42	01.6	4.78	2.54	.841	5966	8	25	06
20	18	23	39.70	-23	41	18.4	4.80	2.55	1.833	7477	8	24	12
21	18	26	43.11	23	40	22.1	4.82	2.56	.825	8943	8	23	19
22	18	29	46.58	23	39	12.9	4.84	2.57	.818	0363	8	22	26
23	18	32	50.09	23	37	50.6	4.86	2.59	.810	1740	8	21	33
24	18	35	53.63	23	36	15.2	4.88	2.60	.802	3077	8	20	40
25	18	38	57.20	-23	34	26.9	4.90	2.61	1.794	4379	8	19	47
26	18	42	00.76	23	32	25.6	4.92	2.62	.786	5647	8	18	54
27	18	45	04.32	23	30	11.4	4.94	2.63	.778	6888	8	18	02
28	18	48	07.87	23	27	44.3	4.97	2.64	.770	8105	8	17	09
MAR. 1	18	51	11.37	23	25	04.2	4.99	2.65	.762	9302	8	16	15
2	18	54	14.83	-23	22	11.3	5.01	2.67	1.755	0486	8	15	22

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	O	'	"			AU		H	M	S
MAR.	3	18	57	18.23	-23	19	05.6	5.03	2.68	1.747	1660	8	14	29
	4	19	00	21.56	23	15	47.1	5.06	2.69	.739	2830	8	13	36
	5	19	03	24.80	23	12	15.8	5.08	2.70	.731	4007	8	12	43
	6	19	06	27.94	23	08	31.9	5.10	2.72	.723	5194	8	11	49
	7	19	09	30.97	23	04	35.3	5.13	2.73	.715	6401	8	10	56
	8	19	12	33.89	-23	00	26.1	5.15	2.74	1.707	7636	8	10	02
	9	19	15	36.68	22	56	04.3	5.17	2.75	.699	8905	8	09	08
	10	19	18	39.34	22	51	30.1	5.20	2.77	.692	0221	8	08	14
	11	19	21	41.86	22	46	43.4	5.22	2.78	.684	1589	8	07	20
	12	19	24	44.23	22	41	44.4	5.25	2.79	.676	3016	8	06	26
	13	19	27	46.44	-22	36	33.1	5.27	2.80	1.668	4511	8	05	32
	14	19	30	48.48	22	31	09.6	5.30	2.82	.660	6076	8	04	37
	15	19	33	50.35	22	25	33.8	5.32	2.83	.652	7718	8	03	43
	16	19	36	52.04	22	19	46.0	5.35	2.85	.644	9441	8	02	48
	17	19	39	53.54	22	13	46.1	5.37	2.86	.637	1246	8	01	53
	18	19	42	54.85	-22	07	34.2	5.40	2.87	1.629	3137	8	00	57
	19	19	45	55.97	22	01	10.4	5.42	2.89	.621	5116	8	00	02
	20	19	48	56.88	21	54	34.6	5.45	2.90	.613	7183	7	59	06
APR.	21	19	51	57.58	21	47	47.1	5.48	2.91	.605	9340	7	58	10
	22	19	54	58.07	21	40	47.9	5.50	2.93	.598	1587	7	57	14
	23	19	57	58.34	-21	33	37.1	5.53	2.94	1.590	3927	7	56	18
	24	20	00	58.38	21	26	14.9	5.56	2.96	.582	6360	7	55	21
	25	20	03	58.18	21	18	41.2	5.58	2.97	.574	8886	7	54	25
	26	20	06	57.73	21	10	56.3	5.61	2.99	.567	1509	7	53	28
	27	20	09	57.03	21	03	00.1	5.64	3.00	.559	4233	7	52	30
	28	20	12	56.06	-20	54	53.0	5.67	3.02	1.551	7056	7	51	33
	29	20	15	54.81	20	46	34.9	5.70	3.03	.543	9984	7	50	35
	30	20	18	53.28	20	38	06.0	5.72	3.05	.536	3017	7	49	37
	31	20	21	51.46	20	29	26.4	5.75	3.06	.528	6161	7	48	38
	1	20	24	49.34	20	20	36.2	5.78	3.08	.520	9417	7	47	39
	2	20	27	46.90	-20	11	35.6	5.81	3.09	1.513	2793	7	46	40
	3	20	30	44.15	20	02	24.7	5.84	3.11	.505	6292	7	45	41
	4	20	33	41.07	19	53	03.6	5.87	3.12	.497	9920	7	44	41
	5	20	36	37.67	19	43	32.4	5.90	3.14	.490	3684	7	43	41
	6	20	39	33.94	19	33	51.3	5.93	3.16	.482	7591	7	42	41
MAY	7	20	42	29.87	-19	24	00.4	5.96	3.17	1.475	1649	7	41	40
	8	20	45	25.46	19	13	59.9	5.99	3.19	.467	5862	7	40	39
	9	20	48	20.71	19	03	49.8	6.02	3.21	.460	0238	7	39	38
	10	20	51	15.60	18	53	30.4	6.05	3.22	.452	4782	7	38	36
	11	20	54	10.15	18	43	01.6	6.09	3.24	.444	9497	7	37	34
	12	20	57	04.35	-18	32	23.7	6.12	3.26	1.437	4388	7	36	32
	13	20	59	58.19	18	21	36.7	6.15	3.27	.429	9457	7	35	29
	14	21	02	51.68	18	10	40.8	6.18	3.29	.422	4704	7	34	26
	15	21	05	44.83	17	59	36.1	6.21	3.31	.415	0132	7	33	22
	16	21	08	37.62	17	48	22.7	6.25	3.32	.407	5740	7	32	18
	17	21	11	30.06	-17	37	00.7	6.28	3.34	1.400	1528	7	31	14
	18	21	14	22.15	17	25	30.3	6.31	3.36	.392	7497	7	30	10
	19	21	17	13.90	17	13	51.6	6.35	3.38	.385	3643	7	29	05
	20	21	20	05.29	17	02	04.8	6.38	3.40	.377	9968	7	28	00
	21	21	22	56.33	16	50	10.0	6.42	3.41	.370	6472	7	26	54
	22	21	25	47.00	-16	38	07.4	6.45	3.43	1.363	3152	7	25	48
	23	21	28	37.32	16	25	57.2	6.49	3.45	.356	0010	7	24	42
	24	21	31	27.27	16	13	39.6	6.52	3.47	.348	7045	7	23	35
	25	21	34	16.85	16	01	14.6	6.56	3.49	.341	4256	7	22	28
	26	21	37	06.06	15	48	42.5	6.59	3.51	.334	1645	7	21	21
	27	21	39	54.90	-15	36	03.4	6.63	3.53	1.326	9209	7	20	13
	28	21	42	43.35	15	23	17.6	6.66	3.55	.319	6952	7	19	05
	29	21	45	31.41	15	10	25.1	6.70	3.57	.312	4874	7	17	56
	30	21	48	19.09	14	57	26.2	6.74	3.59	.305	2976	7	16	47
	1	21	51	06.38	14	44	21.1	6.77	3.61	.298	1261	7	15	38
	2	21	53	53.27	-14	31	09.8	6.81	3.63	1.290	9735	7	14	28

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.		
		H	M	S	°	'	"	"	"	AU	H	M	S
MAY	3	21	56	39.77	-14	17	52.7	6.85	3.65	1.283 8399	7	13	18
	4	21	59	25.87	14	04	29.8	6.89	3.67	.276 7258	7	12	08
	5	22	02	11.57	13	51	01.4	6.93	3.69	.269 6319	7	10	57
	6	22	04	56.88	13	37	27.6	6.97	3.71	.262 5586	7	09	45
	7	22	07	41.78	13	23	48.6	7.00	3.73	.255 5065	7	08	34
	8	22	10	26.27	-13	10	04.6	7.04	3.75	1.248 4757	7	07	22
	9	22	13	10.37	12	56	15.6	7.08	3.77	.241 4667	7	06	09
	10	22	15	54.07	12	42	21.8	7.12	3.79	.234 4795	7	04	56
	11	22	18	37.38	12	28	23.4	7.16	3.81	.227 5144	7	03	43
	12	22	21	20.30	12	14	20.6	7.20	3.83	.220 5713	7	02	29
	13	22	24	02.83	-12	00	13.3	7.25	3.86	1.213 6500	7	01	15
	14	22	26	44.98	11	46	01.9	7.29	3.88	.206 7507	7	00	01
	15	22	29	26.75	11	31	46.4	7.33	3.90	.199 8729	6	58	46
	16	22	32	08.15	11	17	27.1	7.37	3.92	.193 0166	6	57	31
	17	22	34	49.17	11	03	04.0	7.41	3.95	.186 1816	6	56	15
	18	22	37	29.82	-10	48	37.4	7.46	3.97	1.179 3674	6	54	59
	19	22	40	10.09	10	34	07.4	7.50	3.99	.172 5741	6	53	43
20	22	42	49.99	10	19	34.3	7.54	4.01	.165 8013	6	52	26	
21	22	45	29.51	10	04	58.2	7.59	4.04	.159 0485	6	51	09	
22	22	48	08.66	9	50	19.3	7.63	4.06	.152 3160	6	49	52	
23	22	50	47.42	-9	35	37.8	7.68	4.09	1.145 6031	6	48	34	
24	22	53	25.80	9	20	53.9	7.72	4.11	.138 9098	6	47	15	
25	22	56	03.79	9	06	07.8	7.77	4.13	.132 2359	6	45	57	
26	22	58	41.39	8	51	19.7	7.81	4.16	.125 5810	6	44	38	
27	23	01	18.59	8	36	29.7	7.86	4.18	.118 9454	6	43	18	
28	23	03	55.40	-8	21	38.2	7.91	4.21	1.112 3287	6	41	59	
29	23	06	31.81	8	06	45.2	7.95	4.23	.105 7310	6	40	39	
30	23	09	07.82	7	51	51.0	8.00	4.26	.099 1525	6	39	18	
31	23	11	43.41	7	36	55.8	8.05	4.28	.092 5934	6	37	57	
JUNE	1	23	14	18.59	7	21	59.8	8.10	4.31	.086 0539	6	36	36
	2	23	16	53.36	-7	07	03.1	8.15	4.34	1.079 5344	6	35	14
	3	23	19	27.70	6	52	06.0	8.20	4.36	.073 0352	6	33	51
	4	23	22	01.62	6	37	08.5	8.25	4.39	.066 5567	6	32	29
	5	23	24	35.11	6	22	11.0	8.30	4.41	.060 0992	6	31	06
	6	23	27	08.17	6	07	13.5	8.35	4.44	.053 6627	6	29	42
	7	23	29	40.80	-5	52	16.3	8.40	4.47	1.047 2475	6	28	18
	8	23	32	13.02	5	37	19.3	8.45	4.50	.040 8534	6	26	54
	9	23	34	44.81	5	22	22.7	8.50	4.52	.034 4807	6	25	29
	10	23	37	16.18	5	07	26.8	8.55	4.55	.028 1288	6	24	04
	11	23	39	47.13	4	52	31.7	8.61	4.58	.021 7977	6	22	38
	12	23	42	17.67	-4	37	37.4	8.66	4.61	1.015 4871	6	21	12
	13	23	44	47.79	4	22	44.3	8.71	4.64	.009 1968	6	19	46
	14	23	47	17.48	4	07	52.3	8.77	4.67	1.002 9263	6	18	19
	15	23	49	46.76	3	53	01.8	8.82	4.70	0.996 6753	6	16	51
	16	23	52	15.60	3	38	13.0	8.88	4.73	.990 4435	6	15	24
	17	23	54	44.01	-3	23	25.9	8.93	4.75	0.984 2306	6	13	56
18	23	57	11.98	3	08	40.7	8.99	4.79	.978 0362	6	12	27	
19	23	59	39.51	2	53	57.8	9.05	4.82	.971 8599	6	10	58	
20	0	02	06.59	2	39	17.2	9.11	4.85	.965 7014	6	09	28	
21	0	04	33.20	2	24	39.1	9.16	4.88	.959 5603	6	07	58	
22	0	06	59.35	-2	10	03.8	9.22	4.91	0.953 4363	6	06	28	
23	0	09	25.02	1	55	31.5	9.28	4.94	.947 3291	6	04	57	
24	0	11	50.21	1	41	02.3	9.34	4.97	.941 2385	6	03	26	
25	0	14	14.89	1	26	36.4	9.40	5.00	.935 1643	6	01	54	
26	0	16	39.07	1	12	14.0	9.47	5.04	.929 1065	6	00	21	
27	0	19	02.73	-0	57	55.4	9.53	5.07	0.923 0649	5	58	48	
28	0	21	25.86	0	43	40.7	9.59	5.10	.917 0397	5	57	15	
29	0	23	48.43	0	29	30.1	9.65	5.14	.911 0310	5	55	41	
30	0	26	10.44	0	15	23.8	9.72	5.17	.905 0392	5	54	06	
JULY	1	0	28	31.88	-0	01	22.0	9.78	5.21	.899 0645	5	52	31
	2	0	30	52.72	+0	12	35.2	9.85	5.24	0.893 1073	5	50	55

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.			
		H	M	S	O I II			II	II	AU	H	M	S	
JULY	3	0	33	12.96	+	0	26	27.6	9.91	5.28	0.887 1679	5	49	19
	4	0	35	32.59		0	40	15.0	9.98	5.31	.881 2464	5	47	42
	5	0	37	51.60		0	53	57.4	10.05	5.35	.875 3431	5	46	04
	6	0	40	09.99		1	07	34.6	10.11	5.38	.869 4581	5	44	26
	7	0	42	27.75		1	21	06.6	10.18	5.42	.863 5913	5	42	47
	8	0	44	44.86	+	1	34	33.1	10.25	5.46	0.857 7428	5	41	08
	9	0	47	01.33		1	47	54.1	10.32	5.49	.851 9121	5	39	28
	10	0	49	17.14		2	01	09.4	10.39	5.53	.846 0992	5	37	47
	11	0	51	32.28		2	14	18.9	10.47	5.57	.840 3040	5	36	06
	12	0	53	46.73		2	27	22.5	10.54	5.61	.834 5260	5	34	23
	13	0	56	00.49	+	2	40	19.9	10.61	5.65	0.828 7654	5	32	41
	14	0	58	13.52		2	53	11.1	10.69	5.69	.823 0214	5	30	57
15	1	00	25.83		3	05	55.9	10.76	5.73	.817 2940	5	29	13	
16	1	02	37.39		3	18	34.0	10.84	5.77	.811 5830	5	27	28	
17	1	04	48.18		3	31	05.5	10.91	5.81	.805 8880	5	25	42	
18	1	06	58.19	+	3	43	30.0	10.99	5.85	0.800 2088	5	23	55	
19	1	09	07.38		3	55	47.4	11.07	5.89	.794 5452	5	22	08	
20	1	11	15.74		4	07	57.7	11.15	5.93	.788 8970	5	20	20	
21	1	13	23.24		4	20	00.5	11.23	5.97	.783 2638	5	18	31	
22	1	15	29.86		4	31	55.7	11.31	6.02	.777 6458	5	16	41	
23	1	17	35.56	+	4	43	43.1	11.39	6.06	0.772 0427	5	14	50	
24	1	19	40.33		4	55	22.7	11.47	6.11	.766 4548	5	12	58	
25	1	21	44.13		5	06	54.2	11.56	6.15	.760 8822	5	11	05	
26	1	23	46.93		5	18	17.4	11.64	6.20	.755 3251	5	09	11	
27	1	25	48.68		5	29	32.3	11.73	6.24	.749 7838	5	07	16	
28	1	27	49.37	+	5	40	38.6	11.82	6.29	0.744 2588	5	05	20	
29	1	29	48.96		5	51	36.2	11.90	6.34	.738 7510	5	03	23	
30	1	31	47.40		6	02	25.0	11.99	6.38	.733 2606	5	01	25	
31	1	33	44.68		6	13	04.8	12.08	6.43	.727 7883	4	59	26	
AUG.	1	1	35	40.75		6	23	35.7	12.17	6.48	.722 3347	4	57	25
2	1	37	35.61	+	6	33	57.4	12.27	6.53	0.716 9005	4	55	23	
3	1	39	29.21		6	44	10.0	12.36	6.58	.711 4862	4	53	20	
4	1	41	21.54		6	54	13.3	12.45	6.63	.706 0918	4	51	16	
5	1	43	12.56		7	04	07.3	12.55	6.68	.700 7182	4	49	10	
6	1	45	02.25		7	13	51.9	12.65	6.73	.695 3655	4	47	03	
7	1	46	50.58	+	7	23	27.0	12.74	6.78	0.690 0338	4	44	55	
8	1	48	37.50		7	32	52.6	12.84	6.83	.684 7235	4	42	45	
9	1	50	22.99		7	42	08.5	12.94	6.89	.679 4348	4	40	34	
10	1	52	07.01		7	51	14.7	13.04	6.94	.674 1680	4	38	22	
11	1	53	49.52		8	00	11.0	13.15	7.00	.668 9234	4	36	07	
12	1	55	30.48	+	8	08	57.2	13.25	7.05	0.663 7012	4	33	52	
13	1	57	09.86		8	17	33.4	13.35	7.11	.658 5019	4	31	35	
14	1	58	47.60		8	25	59.5	13.46	7.16	.653 3254	4	29	16	
15	2	00	23.67		8	34	15.2	13.57	7.22	.648 1724	4	26	55	
16	2	01	58.01		8	42	20.4	13.68	7.28	.643 0431	4	24	33	
17	2	03	30.59	+	8	50	15.2	13.79	7.34	0.637 9380	4	22	09	
18	2	05	01.34		8	57	59.2	13.90	7.40	.632 8574	4	19	43	
19	2	06	30.22		9	05	32.5	14.01	7.45	.627 8022	4	17	15	
20	2	07	57.17		9	12	54.8	14.12	7.51	.622 7728	4	14	45	
21	2	09	22.13		9	20	06.1	14.24	7.58	.617 7704	4	12	14	
22	2	10	45.05	+	9	27	06.2	14.35	7.64	0.612 7957	4	09	40	
23	2	12	05.86		9	33	55.1	14.47	7.70	.607 8498	4	07	04	
24	2	13	24.49		9	40	32.6	14.59	7.76	.602 9340	4	04	26	
25	2	14	40.90		9	46	58.7	14.70	7.83	.598 0497	4	01	46	
26	2	15	55.01		9	53	13.1	14.82	7.89	.593 1984	3	59	03	
27	2	17	06.77	+	9	59	15.9	14.95	7.95	0.588 3815	3	56	18	
28	2	18	16.12		10	05	07.1	15.07	8.02	.583 6010	3	53	31	
29	2	19	23.00		10	10	46.5	15.19	8.08	.578 8582	3	50	41	
30	2	20	27.38		10	16	14.1	15.32	8.15	.574 1549	3	47	49	
31	2	21	29.19		10	21	29.9	15.44	8.22	.569 4929	3	44	54	
SEPT.	1	2	22	28.39	+10	26	33.9	15.57	8.29	0.564 8736	3	41	57	

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	"	"	"	AU		H	M	S
SEPT. 2	2	23	24.93	+10	31	26.1	15.70	8.35	0.560	2987	3	38	57
3	2	24	18.77	10	36	06.5	15.82	8.42	.555	7697	3	35	54
4	2	25	09.84	10	40	34.9	15.95	8.49	.551	2880	3	32	49
5	2	25	58.11	10	44	51.5	16.08	8.56	.546	8556	3	29	40
6	2	26	43.52	10	48	56.0	16.21	8.63	.542	4738	3	26	29
7	2	27	26.01	+10	52	48.6	16.34	8.70	0.538	1442	3	23	15
8	2	28	05.55	10	56	29.1	16.47	8.77	.533	8687	3	19	58
9	2	28	42.07	10	59	57.4	16.60	8.84	.529	6490	3	16	38
10	2	29	15.52	11	03	13.6	16.73	8.91	.525	4870	3	13	15
11	2	29	45.87	11	06	17.5	16.87	8.98	.521	3841	3	09	49
12	2	30	13.06	+11	09	09.1	17.00	9.05	0.517	3426	3	06	20
13	2	30	37.03	11	11	48.4	17.13	9.12	.513	3641	3	02	47
14	2	30	57.75	11	14	15.2	17.26	9.19	.509	4511	2	59	12
15	2	31	15.16	11	16	29.5	17.39	9.26	.505	6054	2	55	33
16	2	31	29.22	11	18	31.3	17.52	9.33	.501	8295	2	51	50
17	2	31	39.88	+11	20	20.5	17.65	9.40	0.498	1258	2	48	05
18	2	31	47.09	11	21	57.0	17.78	9.46	.494	4969	2	44	16
19	2	31	50.82	11	23	20.9	17.91	9.53	.490	9456	2	40	23
20	2	31	51.03	11	24	32.0	18.04	9.60	.487	4749	2	36	27
21	2	31	47.68	11	25	30.4	18.17	9.67	.484	0881	2	32	27
22	2	31	40.75	+11	26	16.0	18.29	9.73	0.480	7881	2	28	24
23	2	31	30.24	11	26	49.1	18.41	9.80	.477	5786	2	24	17
24	2	31	16.12	11	27	09.5	18.53	9.86	.474	4628	2	20	07
25	2	30	58.40	11	27	17.5	18.65	9.93	.471	4443	2	15	53
26	2	30	37.11	11	27	13.0	18.77	9.99	.468	5265	2	11	36
27	2	30	12.26	+11	26	56.3	18.88	10.05	0.465	7130	2	07	15
28	2	29	43.89	11	26	27.6	18.99	10.11	.463	0070	2	02	50
29	2	29	12.05	11	25	47.1	19.10	10.16	.460	4119	1	58	23
30	2	28	36.78	11	24	55.0	19.20	10.22	.457	9310	1	53	51
OCT. 1	2	27	58.14	11	23	51.5	19.30	10.27	.455	5675	1	49	17
2	2	27	16.20	+11	22	37.0	19.40	10.32	0.453	3243	1	44	39
3	2	26	31.04	11	21	11.6	19.49	10.37	.451	2046	1	39	58
4	2	25	42.73	11	19	35.6	19.58	10.42	.449	2115	1	35	14
5	2	24	51.38	11	17	49.4	19.66	10.46	.447	3477	1	30	27
6	2	23	57.06	11	15	53.3	19.73	10.50	.445	6161	1	25	37
7	2	22	59.90	+11	13	47.7	19.81	10.54	0.444	0195	1	20	44
8	2	22	00.02	11	11	32.9	19.87	10.57	.442	5609	1	15	48
9	2	20	57.52	11	09	09.3	19.93	10.61	.441	2424	1	10	50
10	2	19	52.55	11	06	37.5	19.98	10.63	.440	0669	1	05	49
11	2	18	45.24	11	03	57.7	20.03	10.66	.439	0367	1	00	46
12	2	17	35.73	+11	01	10.6	20.07	10.68	0.438	1543	0	55	41
13	2	16	24.17	10	58	16.6	20.10	10.70	.437	4220	0	50	34
14	2	15	10.71	10	55	16.3	20.13	10.71	.436	8422	0	45	25
15	2	13	55.51	10	52	10.3	20.15	10.72	.436	4172	0	40	15
16	2	12	38.74	10	48	59.1	20.16	10.73	.436	1492	0	35	02
17	2	11	20.57	+10	45	43.3	20.17	10.73	0.436	0407	0	29	49
18	2	10	01.17	10	42	23.7	20.17	10.73	.436	0937	0	24	34
19	2	08	40.74	10	39	01.0	20.16	10.73	.436	3104	0	19	18
20	2	07	19.47	10	35	35.9	20.14	10.72	.436	6927	0	14	01
21	2	05	57.54	10	32	09.2	20.11	10.70	.437	2426	0	08	44
22	2	04	35.19	+10	28	41.7	20.08	10.69	0.437	9615	0	03	26
23	2	03	12.61	10	25	14.2	20.04	10.66	.438	8507	23	52	50
24	2	01	50.02	10	21	47.7	19.99	10.64	.439	9113	23	47	33
25	2	00	27.64	10	18	22.9	19.93	10.61	.441	1443	23	42	15
26	1	59	05.67	10	15	00.8	19.87	10.58	.442	5501	23	36	59
27	1	57	44.34	+10	11	42.3	19.80	10.54	0.444	1287	23	31	43
28	1	56	23.83	10	08	28.1	19.72	10.50	.445	8804	23	26	28
29	1	55	04.37	10	05	19.2	19.64	10.45	.447	8045	23	21	14
30	1	53	46.13	10	02	16.2	19.55	10.40	.449	9007	23	16	02
31	1	52	29.30	9	59	19.9	19.45	10.35	.452	1680	23	10	51
NOV. 1	1	51	14.05	+ 9	56	31.3	19.34	10.29	0.454	6054	23	05	42

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.				
		H	M	S	° ' "			"	"	AU		H	M	S		
NOV.	2	1	50	00.56	+	9	53	50.7	19.23	10.24	0.457	2117	23	00	35	
	3	1	48	48.96		9	51	19.0	19.12	10.17	.459	9856	22	55	30	
	4	1	47	39.43		9	48	56.7	19.00	10.11	.462	9254	22	50	27	
	5	1	46	32.08		9	46	44.6	18.87	10.04	.466	0295	22	45	26	
	6	1	45	27.05		9	44	43.0	18.74	9.97	.469	2958	22	40	28	
	7	1	44	24.45	+	9	42	52.5	18.60	9.90	0.472	7227	22	35	32	
	8	1	43	24.39		9	41	13.5	18.46	9.83	.476	3080	22	30	39	
	9	1	42	26.95		9	39	46.5	18.32	9.75	.480	0496	22	25	49	
	10	1	41	32.23		9	38	31.9	18.17	9.67	.483	9453	22	21	01	
	11	1	40	40.29		9	37	29.9	18.02	9.59	.487	9932	22	16	16	
	12	1	39	51.20	+	9	36	40.8	17.87	9.51	0.492	1910	22	11	34	
	13	1	39	05.01		9	36	05.0	17.71	9.43	.496	5372	22	06	55	
	14	1	38	21.77		9	35	42.6	17.55	9.34	.501	0295	22	02	19	
	15	1	37	41.52		9	35	33.8	17.39	9.26	.505	6661	21	57	46	
	16	1	37	04.30		9	35	38.9	17.23	9.17	.510	4449	21	53	15	
	17	1	36	30.15	+	9	35	57.9	17.06	9.08	0.515	3641	21	48	48	
	18	1	35	59.10		9	36	31.2	16.90	8.99	.520	4215	21	44	24	
	19	1	35	31.17		9	37	18.8	16.73	8.90	.525	6150	21	40	04	
	20	1	35	06.40		9	38	20.7	16.56	8.81	.530	9425	21	35	46	
	21	1	34	44.79		9	39	37.2	16.39	8.72	.536	4013	21	31	31	
	22	1	34	26.36	+	9	41	08.1	16.23	8.63	0.541	9890	21	27	20	
	23	1	34	11.11		9	42	53.7	16.06	8.54	.547	7033	21	23	12	
	24	1	33	59.05		9	44	53.8	15.89	8.45	.553	5415	21	19	07	
	25	1	33	50.16		9	47	08.3	15.72	8.36	.559	5008	21	15	05	
	26	1	33	44.42		9	49	37.3	15.55	8.27	.565	5785	21	11	06	
	27	1	33	41.83	+	9	52	20.4	15.38	8.19	0.571	7719	21	07	10	
	28	1	33	42.36		9	55	17.8	15.21	8.10	.578	0783	21	03	17	
	29	1	33	45.98		9	58	29.0	15.05	8.01	.584	4949	20	59	28	
	30	1	33	52.64		10	01	54.1	14.88	7.92	.591	0191	20	55	41	
	DEC.	1	1	34	02.33		10	05	32.6	14.71	7.83	.597	6481	20	51	57
		2	1	34	15.00	+10	09	24.5	14.55	7.74	0.604	3792	20	48	17	
3		1	34	30.61		10	13	29.4	14.39	7.66	.611	2099	20	44	39	
4		1	34	49.11		10	17	47.1	14.23	7.57	.618	1377	20	41	04	
5		1	35	10.45		10	22	17.3	14.07	7.49	.625	1599	20	37	31	
6		1	35	34.60		10	26	59.8	13.91	7.40	.632	2741	20	34	02	
7		1	36	01.49	+10	31	54.3	13.75	7.32	0.639	4780	20	30	35		
8		1	36	31.07		10	37	00.4	13.60	7.24	.646	7696	20	27	11	
9		1	37	03.29		10	42	17.8	13.44	7.15	.654	1467	20	23	49	
10		1	37	38.10		10	47	46.3	13.29	7.07	.661	6072	20	20	30	
11		1	38	15.43		10	53	25.6	13.14	6.99	.669	1498	20	17	13	
12		1	38	55.24	+10	59	15.3	12.99	6.92	0.676	7726	20	13	59		
13		1	39	37.48		11	05	15.1	12.85	6.84	.684	4742	20	10	47	
14		1	40	22.10		11	11	24.8	12.70	6.76	.692	2529	20	07	37	
15		1	41	09.04		11	17	44.1	12.56	6.68	.700	1077	20	04	30	
16		1	41	58.29		11	24	12.7	12.42	6.61	.708	0365	20	01	25	
17		1	42	49.79	+11	30	50.4	12.28	6.54	0.716	0384	19	58	22		
18		1	43	43.51		11	37	37.0	12.14	6.46	.724	1114	19	55	22	
19		1	44	39.41		11	44	32.1	12.01	6.39	.732	2540	19	52	23	
20		1	45	37.45		11	51	35.6	11.88	6.32	.740	4644	19	49	27	
21		1	46	37.60		11	58	47.2	11.75	6.25	.748	7410	19	46	32	
22		1	47	39.81	+12	06	06.7	11.62	6.18	0.757	0820	19	43	40		
23		1	48	44.06		12	13	33.7	11.49	6.11	.765	4855	19	40	50	
24		1	49	50.29		12	21	07.9	11.36	6.05	.773	9498	19	38	01	
25		1	50	58.48		12	28	49.2	11.24	5.98	.782	4732	19	35	15	
26		1	52	08.57		12	36	37.2	11.12	5.92	.791	0538	19	32	30	
27		1	53	20.54	+12	44	31.6	11.00	5.85	0.799	6900	19	29	47		
28		1	54	34.34		12	52	32.2	10.88	5.79	.808	3799	19	27	06	
29		1	55	49.93		13	00	38.6	10.76	5.73	.817	1218	19	24	27	
30		1	57	07.27		13	08	50.6	10.65	5.67	.825	9140	19	21	50	
31		1	58	26.34		13	17	08.0	10.53	5.61	.834	7550	19	19	14	

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	''			AU		H	M	S
JAN. 1	1	59	47.08	+13	25	30.4	10.42	5.55	0.843	6429	19	16	40
2	2	01	09.47	13	33	57.4	10.31	5.49	.852	5764	19	14	07
3	2	02	33.47	13	42	29.0	10.21	5.43	.861	5538	19	11	36
4	2	03	59.03	13	51	04.8	10.10	5.38	.870	5739	19	09	06
5	2	05	26.12	13	59	44.5	10.00	5.32	.879	6352	19	06	38
6	2	06	54.71	+14	08	27.8	9.89	5.27	0.888	7365	19	04	12
7	2	08	24.75	14	17	14.6	9.79	5.21	.897	8768	19	01	47
8	2	09	56.21	14	26	04.5	9.70	5.16	.907	0552	18	59	23
9	2	11	29.06	14	34	57.2	9.60	5.11	.916	2709	18	57	01
10	2	13	03.27	14	43	52.6	9.50	5.06	.925	5231	18	54	39
11	2	14	38.80	+14	52	50.4	9.41	5.01	0.934	8110	18	52	20
12	2	16	15.63	15	01	50.3	9.31	4.96	.944	1340	18	50	01
13	2	17	53.76	15	10	52.2	9.22	4.91	.953	4914	18	47	44
14	2	19	33.14	15	19	55.8	9.13	4.86	.962	8824	18	45	28
15	2	21	13.77	15	29	01.0	9.04	4.81	.972	3057	18	43	13
16	2	22	55.63	+15	38	07.6	8.96	4.77	0.981	7607	18	41	00
17	2	24	38.71	15	47	15.4	8.87	4.72	0.991	2462	18	38	47
18	2	26	22.97	15	56	24.2	8.79	4.68	1.000	7612	18	36	36
19	2	28	08.41	16	05	33.7	8.70	4.63	.010	3044	18	34	26
20	2	29	55.00	16	14	43.8	8.62	4.59	.019	8748	18	32	17
21	2	31	42.73	+16	23	54.4	8.54	4.55	1.029	4711	18	30	09
22	2	33	31.57	16	33	05.0	8.46	4.50	.039	0921	18	28	03
23	2	35	21.51	16	42	15.7	8.39	4.46	.048	7365	18	25	57
24	2	37	12.53	16	51	26.1	8.31	4.42	.058	4033	18	23	53
25	2	39	04.62	17	00	36.0	8.23	4.38	.068	0912	18	21	49
26	2	40	57.74	+17	09	45.3	8.16	4.34	1.077	7988	18	19	47
27	2	42	51.89	17	18	53.8	8.09	4.30	.087	5250	18	17	45
28	2	44	47.04	17	28	01.2	8.01	4.27	.097	2686	18	15	45
29	2	46	43.19	17	37	07.3	7.94	4.23	.107	0287	18	13	45
30	2	48	40.30	17	46	12.0	7.87	4.19	.116	8035	18	11	47
FEB. 31	2	50	38.36	+17	55	15.0	7.81	4.15	1.126	5925	18	09	49
1	2	52	37.36	18	04	16.2	7.74	4.12	.136	3945	18	07	52
2	2	54	37.27	18	13	15.4	7.67	4.08	.146	2086	18	05	57
3	2	56	38.08	18	22	12.4	7.61	4.05	.156	0337	18	04	02
4	2	58	39.76	18	31	07.0	7.54	4.01	.165	8694	18	02	08
5	3	00	42.29	+18	39	59.0	7.48	3.98	1.175	7150	18	00	14
6	3	02	45.65	18	48	48.3	7.42	3.95	.185	5699	17	58	22
7	3	04	49.83	18	57	34.6	7.36	3.91	.195	4338	17	56	30
8	3	06	54.82	19	06	17.7	7.30	3.88	.205	3061	17	54	39
9	3	09	00.60	19	14	57.6	7.24	3.85	.215	1868	17	52	49
10	3	11	07.16	+19	23	34.0	7.18	3.82	1.225	0749	17	51	00
11	3	13	14.50	19	32	06.8	7.12	3.79	.234	9703	17	49	12
12	3	15	22.62	19	40	36.0	7.06	3.76	.244	8723	17	47	24
13	3	17	31.49	19	49	01.2	7.01	3.73	.254	7803	17	45	37
14	3	19	41.12	19	57	22.5	6.95	3.70	.264	6934	17	43	51
15	3	21	51.50	+20	05	39.7	6.90	3.67	1.274	6109	17	42	05
16	3	24	02.62	20	13	52.5	6.85	3.64	.284	5318	17	40	20
17	3	26	14.46	20	22	01.0	6.79	3.62	.294	4555	17	38	36
18	3	28	27.02	20	30	04.8	6.74	3.59	.304	3809	17	36	53
19	3	30	40.29	20	38	03.9	6.69	3.56	.314	3070	17	35	10
20	3	32	54.25	+20	45	58.2	6.64	3.53	1.324	2330	17	33	28
21	3	35	08.91	20	53	47.4	6.59	3.51	.334	1578	17	31	47
22	3	37	24.25	21	01	31.5	6.54	3.48	.344	0805	17	30	06
23	3	39	40.25	21	09	10.2	6.49	3.46	.354	0001	17	28	26
24	3	41	56.91	21	16	43.5	6.45	3.43	.363	9155	17	26	47
25	3	44	14.23	+21	24	11.2	6.40	3.41	1.373	8257	17	25	08
26	3	46	32.18	21	31	33.1	6.36	3.38	.383	7299	17	23	30
27	3	48	50.76	21	38	49.2	6.31	3.36	.393	6269	17	21	53
28	3	51	09.95	21	45	59.3	6.27	3.33	.403	5159	17	20	16
MAR. 1	3	53	29.75	21	53	03.2	6.22	3.31	.413	3961	17	18	40
2	3	55	50.13	+22	00	00.9	6.18	3.29	1.423	2668	17	17	04

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.		
	H	M	S	O	'	"	"	"	AU	H	M	S
MAR. 3	3	58	11.09	+22	06	52.3	6.14	3.27	1.433 1272	17	15	29
4	4	00	32.60	22	13	37.1	6.09	3.24	.442 9768	17	13	55
5	4	02	54.66	22	20	15.3	6.05	3.22	.452 8151	17	12	21
6	4	05	17.25	22	26	46.7	6.01	3.20	.462 6417	17	10	47
7	4	07	40.36	22	33	11.3	5.97	3.18	.472 4565	17	09	14
8	4	10	03.98	+22	39	28.8	5.93	3.16	1.482 2590	17	07	42
9	4	12	28.10	22	45	39.2	5.89	3.14	.492 0491	17	06	10
10	4	14	52.71	22	51	42.4	5.86	3.12	.501 8264	17	04	38
11	4	17	17.81	22	57	38.2	5.82	3.10	.511 5907	17	03	07
12	4	19	43.40	23	03	26.6	5.78	3.08	.521 3417	17	01	37
13	4	22	09.47	+23	09	07.6	5.74	3.06	1.531 0788	17	00	07
14	4	24	36.00	23	14	40.9	5.71	3.04	.540 8015	16	58	37
15	4	27	03.00	23	20	06.5	5.67	3.02	.550 5093	16	57	08
16	4	29	30.46	23	25	24.3	5.64	3.00	.560 2013	16	55	39
17	4	31	58.36	23	30	34.3	5.60	2.98	.569 8773	16	54	11
18	4	34	26.71	+23	35	36.2	5.57	2.96	1.579 5360	16	52	43
19	4	36	55.48	23	40	30.1	5.53	2.94	.589 1770	16	51	16
20	4	39	24.68	23	45	15.8	5.50	2.93	.598 7995	16	49	49
21	4	41	54.30	23	49	53.2	5.47	2.91	.608 4025	16	48	22
22	4	44	24.32	23	54	22.3	5.44	2.89	.617 9854	16	46	56
23	4	46	54.75	+23	58	42.9	5.40	2.88	1.627 5473	16	45	30
24	4	49	25.56	24	02	55.0	5.37	2.86	.637 0873	16	44	05
25	4	51	56.76	24	06	58.4	5.34	2.84	.646 6045	16	42	40
26	4	54	28.33	24	10	53.2	5.31	2.83	.656 0982	16	41	15
27	4	57	00.26	24	14	39.2	5.28	2.81	.665 5672	16	39	51
28	4	59	32.54	+24	18	16.3	5.25	2.79	1.675 0110	16	38	27
29	5	02	05.16	24	21	44.6	5.22	2.78	.684 4289	16	37	03
30	5	04	38.10	24	25	03.9	5.19	2.76	.693 8202	16	35	40
31	5	07	11.35	24	28	14.1	5.16	2.75	.703 1842	16	34	17
APR. 1	5	09	44.90	24	31	15.3	5.14	2.73	.712 5208	16	32	54
2	5	12	18.73	+24	34	07.3	5.11	2.72	1.721 8293	16	31	32
3	5	14	52.82	24	36	50.1	5.08	2.70	.731 1097	16	30	10
4	5	17	27.17	24	39	23.6	5.05	2.69	.740 3616	16	28	48
5	5	20	01.77	24	41	47.7	5.03	2.67	.749 5850	16	27	26
6	5	22	36.61	24	44	02.4	5.00	2.66	.758 7796	16	26	05
7	5	25	11.69	+24	46	07.6	4.97	2.65	1.767 9455	16	24	43
8	5	27	46.99	24	48	03.4	4.95	2.63	.777 0823	16	23	22
9	5	30	22.51	24	49	49.6	4.92	2.62	.786 1900	16	22	01
10	5	32	58.24	24	51	26.2	4.90	2.61	.795 2683	16	20	41
11	5	35	34.17	24	52	53.2	4.87	2.59	.804 3166	16	19	20
12	5	38	10.30	+24	54	10.6	4.85	2.58	1.813 3348	16	18	00
13	5	40	46.62	24	55	18.2	4.83	2.57	.822 3221	16	16	40
14	5	43	23.11	24	56	16.1	4.80	2.56	.831 2784	16	15	20
15	5	45	59.78	24	57	04.3	4.78	2.54	.840 2028	16	14	01
16	5	48	36.61	24	57	42.6	4.76	2.53	.849 0950	16	12	41
17	5	51	13.60	+24	58	11.1	4.73	2.52	1.857 9541	16	11	22
18	5	53	50.73	24	58	29.7	4.71	2.51	.866 7796	16	10	02
19	5	56	28.01	24	58	38.4	4.69	2.50	.875 5710	16	08	43
20	5	59	05.41	24	58	37.1	4.67	2.48	.884 3274	16	07	24
21	6	01	42.95	24	58	25.9	4.65	2.47	.893 0481	16	06	05
22	6	04	20.59	+24	58	04.7	4.62	2.46	1.901 7324	16	04	47
23	6	06	58.35	24	57	33.5	4.60	2.45	.910 3794	16	03	28
24	6	09	36.20	24	56	52.3	4.58	2.44	.918 9884	16	02	09
25	6	12	14.15	24	56	01.1	4.56	2.43	.927 5587	16	00	51
26	6	14	52.16	24	54	59.9	4.54	2.42	.936 0897	15	59	33
27	6	17	30.24	+24	53	48.7	4.52	2.41	1.944 5809	15	58	14
28	6	20	08.36	24	52	27.5	4.50	2.40	.953 0318	15	56	56
29	6	22	46.52	24	50	56.3	4.48	2.39	.961 4421	15	55	38
30	6	25	24.70	24	49	15.2	4.46	2.38	.969 8114	15	54	19
MAY 1	6	28	02.89	24	47	24.0	4.45	2.37	.978 1398	15	53	01
2	6	30	41.09	+24	45	22.8	4.43	2.36	1.986 4270	15	51	43

DATE	APPT. R.A.	APPT. DEC.	H.P.	S.D.	T.D.	E.T.
	H M S	° ' "	° ' "	° ' "	AU	H M S
MAY 3	6 33 19.28	+24 43 11.6	4.41	2.35	1.994 6727	15 50 24
4	6 35 57.45	24 40 50.5	4.39	2.34	2.002 8774	15 49 06
5	6 38 35.61	24 38 19.3	4.37	2.33	.011 0409	15 47 48
6	6 41 13.74	24 35 38.2	4.36	2.32	.019 1629	15 46 29
7	6 43 51.84	24 32 47.1	4.34	2.31	.027 2435	15 45 11
8	6 46 29.90	+24 29 46.1	4.32	2.30	2.035 2826	15 43 52
9	6 49 07.92	24 26 35.1	4.30	2.29	.043 2799	15 42 34
10	6 51 45.89	24 23 14.3	4.29	2.28	.051 2353	15 41 15
11	6 54 23.80	24 19 43.6	4.27	2.27	.059 1484	15 39 57
12	6 57 01.64	24 16 03.1	4.25	2.26	.067 0189	15 38 38
13	6 59 39.41	+24 12 12.7	4.24	2.26	2.074 8463	15 37 19
14	7 02 17.11	24 08 12.4	4.22	2.25	.082 6303	15 36 01
15	7 04 54.73	24 04 02.4	4.21	2.24	.090 3705	15 34 42
16	7 07 32.26	23 59 42.5	4.19	2.23	.098 0662	15 33 23
17	7 10 09.70	23 55 12.9	4.18	2.22	.105 7170	15 32 03
18	7 12 47.04	+23 50 33.6	4.16	2.21	2.113 3224	15 30 44
19	7 15 24.29	23 45 44.5	4.15	2.21	.120 8817	15 29 25
20	7 18 01.43	23 40 45.8	4.13	2.20	.128 3942	15 28 06
21	7 20 38.46	23 35 37.4	4.12	2.19	.135 8593	15 26 46
22	7 23 15.37	23 30 19.5	4.10	2.18	.143 2764	15 25 26
23	7 25 52.16	+23 24 52.0	4.09	2.18	2.150 6447	15 24 07
24	7 28 28.82	23 19 15.1	4.08	2.17	.157 9636	15 22 47
25	7 31 05.34	23 13 28.8	4.06	2.16	.165 2328	15 21 27
26	7 33 41.70	23 07 33.1	4.05	2.15	.172 4518	15 20 06
27	7 36 17.90	23 01 28.1	4.03	2.15	.179 6205	15 18 46
28	7 38 53.93	+22 55 13.9	4.02	2.14	2.186 7385	15 17 25
29	7 41 29.79	22 48 50.4	4.01	2.13	.193 8058	15 16 05
30	7 44 05.46	22 42 17.8	4.00	2.13	.200 8223	15 14 44
31	7 46 40.95	22 35 36.1	3.98	2.12	.207 7882	15 13 23
JUNE 1	7 49 16.26	22 28 45.4	3.97	2.11	.214 7035	15 12 01
2	7 51 51.37	+22 21 45.6	3.96	2.11	2.221 5681	15 10 40
3	7 54 26.29	22 14 36.9	3.95	2.10	.228 3823	15 09 18
4	7 57 01.01	22 07 19.3	3.93	2.09	.235 1459	15 07 56
5	7 59 35.54	21 59 52.9	3.92	2.09	.241 8590	15 06 34
6	8 02 09.86	21 52 17.8	3.91	2.08	.248 5215	15 05 12
7	8 04 43.97	+21 44 33.9	3.90	2.08	2.255 1333	15 03 49
8	8 07 17.88	21 36 41.4	3.89	2.07	.261 6940	15 02 27
9	8 09 51.58	21 28 40.3	3.88	2.06	.268 2039	15 01 04
10	8 12 25.07	21 20 30.6	3.87	2.06	.274 6624	14 59 41
11	8 14 58.34	21 12 12.5	3.86	2.05	.281 0694	14 58 17
12	8 17 31.41	+21 03 45.9	3.84	2.05	2.287 4244	14 56 54
13	8 20 04.26	20 55 10.9	3.83	2.04	.293 7271	14 55 30
14	8 22 36.89	20 46 27.6	3.82	2.03	.299 9771	14 54 06
15	8 25 09.32	20 37 36.1	3.81	2.03	.306 1740	14 52 42
16	8 27 41.53	20 28 36.3	3.80	2.02	.312 3174	14 51 18
17	8 30 13.53	+20 19 28.4	3.79	2.02	2.318 4066	14 49 53
18	8 32 45.32	20 10 12.4	3.78	2.01	.324 4411	14 48 28
19	8 35 16.90	20 00 48.4	3.77	2.01	.330 4203	14 47 03
20	8 37 48.26	19 51 16.6	3.76	2.00	.336 3436	14 45 38
21	8 40 19.40	19 41 36.9	3.75	2.00	.342 2104	14 44 12
22	8 42 50.31	+19 31 49.5	3.75	1.99	2.348 0203	14 42 47
23	8 45 20.99	19 21 54.5	3.74	1.99	.353 7729	14 41 21
24	8 47 51.44	19 11 51.9	3.73	1.98	.359 4682	14 39 55
25	8 50 21.65	19 01 41.9	3.72	1.98	.365 1057	14 38 28
26	8 52 51.62	18 51 24.4	3.71	1.97	.370 6856	14 37 02
27	8 55 21.36	+18 40 59.6	3.70	1.97	2.376 2079	14 35 35
28	8 57 50.86	18 30 27.6	3.69	1.97	.381 6727	14 34 08
29	9 00 20.13	18 19 48.3	3.68	1.96	.387 0803	14 32 40
30	9 02 49.16	18 09 02.0	3.68	1.96	.392 4306	14 31 13
JULY 1	9 05 17.96	17 58 08.7	3.67	1.95	.397 7237	14 29 45
2	9 07 46.52	+17 47 08.4	3.66	1.95	2.402 9598	14 28 17

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"			AU		H	M	S
JULY	3	9	10	14.85	+17	36	01.2	3.65	1.94	2.408	1392	14	26	48
	4	9	12	42.96	17	24	47.3	3.64	1.94	.413	2615	14	25	20
	5	9	15	10.83	17	13	26.6	3.64	1.94	.418	3270	14	23	51
	6	9	17	38.48	17	01	59.3	3.63	1.93	.423	3356	14	22	22
	7	9	20	05.90	16	50	25.4	3.62	1.93	.428	2872	14	20	53
	8	9	22	33.10	+16	38	45.0	3.61	1.92	2.433	1816	14	19	24
	9	9	25	00.08	16	26	58.2	3.61	1.92	.438	0187	14	17	54
	10	9	27	26.85	16	15	04.9	3.60	1.92	.442	7985	14	16	24
	11	9	29	53.40	16	03	05.4	3.59	1.91	.447	5206	14	14	54
	12	9	32	19.75	15	50	59.6	3.59	1.91	.452	1846	14	13	24
	13	9	34	45.90	+15	38	47.7	3.58	1.90	2.456	7903	14	11	54
	14	9	37	11.85	15	26	29.7	3.57	1.90	.461	3373	14	10	23
	15	9	39	37.61	15	14	05.6	3.57	1.90	.465	8253	14	08	52
	16	9	42	03.18	15	01	35.6	3.56	1.89	.470	2537	14	07	21
	17	9	44	28.56	14	48	59.8	3.55	1.89	.474	6219	14	05	50
	18	9	46	53.76	+14	36	18.2	3.55	1.89	2.478	9296	14	04	19
	19	9	49	18.77	14	23	30.9	3.54	1.88	.483	1760	14	02	47
	20	9	51	43.60	14	10	38.1	3.54	1.88	.487	3608	14	01	15
	21	9	54	08.24	13	57	39.9	3.53	1.88	.491	4839	13	59	43
	22	9	56	32.69	13	44	36.3	3.52	1.88	.495	5448	13	58	11
	23	9	58	56.96	+13	31	27.4	3.52	1.87	2.499	5434	13	56	39
	24	10	01	21.05	13	18	13.3	3.51	1.87	.503	4799	13	55	07
	25	10	03	44.96	13	04	54.0	3.51	1.87	.507	3542	13	53	34
	26	10	06	08.71	12	51	29.8	3.50	1.86	.511	1665	13	52	01
	27	10	08	32.28	12	38	00.6	3.50	1.86	.514	9170	13	50	28
	28	10	10	55.69	+12	24	26.5	3.49	1.86	2.518	6061	13	48	55
	29	10	13	18.93	12	10	47.6	3.49	1.86	.522	2338	13	47	22
	30	10	15	42.02	11	57	04.1	3.48	1.85	.525	8003	13	45	48
	31	10	18	04.95	11	43	15.9	3.48	1.85	.529	3059	13	44	15
AUG.	1	10	20	27.74	11	29	23.3	3.47	1.85	.532	7507	13	42	41
	2	10	22	50.37	+11	15	26.1	3.47	1.85	2.536	1344	13	41	07
	3	10	25	12.87	11	01	24.6	3.46	1.84	.539	4577	13	39	33
	4	10	27	35.23	10	47	18.8	3.46	1.84	.542	7203	13	37	59
	5	10	29	57.46	10	33	08.7	3.45	1.84	.545	9222	13	36	24
	6	10	32	19.57	10	18	54.5	3.45	1.84	.549	0635	13	34	50
	7	10	34	41.56	+10	04	36.2	3.45	1.83	2.552	1439	13	33	15
	8	10	37	03.44	9	50	13.9	3.44	1.83	.555	1635	13	31	41
	9	10	39	25.22	9	35	47.6	3.44	1.83	.558	1221	13	30	06
	10	10	41	46.91	9	21	17.4	3.43	1.83	.561	0194	13	28	31
	11	10	44	08.50	9	06	43.5	3.43	1.83	.563	8552	13	26	56
	12	10	46	30.02	+ 8	52	05.8	3.43	1.82	2.566	6291	13	25	21
	13	10	48	51.46	8	37	24.5	3.42	1.82	.569	3408	13	23	46
	14	10	51	12.82	8	22	39.6	3.42	1.82	.571	9898	13	22	11
	15	10	53	34.12	8	07	51.3	3.42	1.82	.574	5757	13	20	36
	16	10	55	55.36	7	52	59.7	3.41	1.82	.577	0983	13	19	01
	17	10	58	16.53	+ 7	38	04.8	3.41	1.81	2.579	5568	13	17	26
	18	11	00	37.65	7	23	06.8	3.41	1.81	.581	9513	13	15	50
	19	11	02	58.71	7	08	05.7	3.40	1.81	.584	2812	13	14	15
	20	11	05	19.72	6	53	01.6	3.40	1.81	.586	5467	13	12	39
	21	11	07	40.69	6	37	54.7	3.40	1.81	.588	7476	13	11	04
	22	11	10	01.62	+ 6	22	45.0	3.39	1.81	2.590	8842	13	09	28
	23	11	12	22.51	6	07	32.5	3.39	1.80	.592	9568	13	07	53
	24	11	14	43.38	5	52	17.5	3.39	1.80	.594	9653	13	06	17
	25	11	17	04.22	5	36	59.9	3.39	1.80	.596	9105	13	04	41
	26	11	19	25.05	5	21	40.0	3.38	1.80	.598	7923	13	03	06
	27	11	21	45.85	+ 5	06	17.6	3.38	1.80	2.600	6111	13	01	30
	28	11	24	06.66	4	50	53.1	3.38	1.80	.602	3670	12	59	55
	29	11	26	27.45	4	35	26.3	3.38	1.80	.604	0604	12	58	19
	30	11	28	48.26	4	19	57.5	3.37	1.80	.605	6916	12	56	43
	31	11	31	09.07	4	04	26.7	3.37	1.79	.607	2606	12	55	08
SEPT.	1	11	33	29.90	+ 3	48	54.0	3.37	1.79	2.608	7677	12	53	32

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	O	I	II			AU		H	M	S
SEPT. 2	11	35	50.75	+	3	33 19.4	3.37	1.79	2.610	2128	12	51	56
3	11	38	11.64		3	17 43.0	3.37	1.79	.611	5963	12	50	21
4	11	40	32.56		3	02 05.0	3.37	1.79	.612	9180	12	48	45
5	11	42	53.54		2	46 25.3	3.36	1.79	.614	1781	12	47	10
6	11	45	14.58		2	30 44.1	3.36	1.79	.615	3765	12	45	35
7	11	47	35.68	+	2	15 01.5	3.36	1.79	2.616	5132	12	43	59
8	11	49	56.86		1	59 17.4	3.36	1.79	.617	5879	12	42	24
9	11	52	18.12		1	43 32.1	3.36	1.79	.618	6003	12	40	49
10	11	54	39.47		1	27 45.6	3.36	1.79	.619	5504	12	39	14
11	11	57	00.92		1	11 57.9	3.36	1.79	.620	4378	12	37	39
12	11	59	22.46	+	0	56 09.3	3.35	1.79	2.621	2621	12	36	04
13	12	01	44.11		0	40 19.8	3.35	1.78	.622	0231	12	34	29
14	12	04	05.87		0	24 29.5	3.35	1.78	.622	7205	12	32	55
15	12	06	27.75	+	0	08 38.5	3.35	1.78	.623	3539	12	31	20
16	12	08	49.74	-	0	07 13.0	3.35	1.78	.623	9232	12	29	46
17	12	11	11.87	-	0	23 05.1	3.35	1.78	2.624	4284	12	28	12
18	12	13	34.13		0	38 57.5	3.35	1.78	.624	8694	12	26	37
19	12	15	56.53		0	54 50.2	3.35	1.78	.625	2465	12	25	03
20	12	18	19.07		1	10 43.1	3.35	1.78	.625	5599	12	23	30
21	12	20	41.77		1	26 36.1	3.35	1.78	.625	8101	12	21	56
22	12	23	04.62	-	1	42 29.1	3.35	1.78	2.625	9972	12	20	22
23	12	25	27.64		1	58 22.0	3.35	1.78	.626	1216	12	18	49
24	12	27	50.82		2	14 14.6	3.35	1.78	.626	1839	12	17	16
25	12	30	14.17		2	30 06.9	3.35	1.78	.626	1844	12	15	43
26	12	32	37.70		2	45 58.8	3.35	1.78	.626	1233	12	14	10
27	12	35	01.41	-	3	01 50.1	3.35	1.78	2.626	0011	12	12	37
28	12	37	25.33		3	17 40.8	3.35	1.78	.625	8179	12	11	05
29	12	39	49.44		3	33 30.9	3.35	1.78	.625	5741	12	09	33
30	12	42	13.76		3	49 20.1	3.35	1.78	.625	2702	12	08	01
OCT. 1	12	44	38.30		4	05 08.4	3.35	1.78	.624	9062	12	06	29
2	12	47	03.06	-	4	20 55.7	3.35	1.78	2.624	4826	12	04	57
3	12	49	28.07		4	36 42.0	3.35	1.78	.623	9992	12	03	26
4	12	51	53.32		4	52 27.1	3.35	1.78	.623	4563	12	01	55
5	12	54	18.82		5	08 10.9	3.35	1.78	.622	8540	12	00	24
6	12	56	44.58		5	23 53.4	3.35	1.78	.622	1922	11	58	54
7	12	59	10.62	-	5	39 34.4	3.35	1.79	2.621	4708	11	57	23
8	13	01	36.93		5	55 13.8	3.36	1.79	.620	6899	11	55	53
9	13	04	03.52		6	10 51.6	3.36	1.79	.619	8491	11	54	24
10	13	06	30.41		6	26 27.5	3.36	1.79	.618	9483	11	52	54
11	13	08	57.58		6	42 01.5	3.36	1.79	.617	9873	11	51	25
12	13	11	25.06	-	6	57 33.5	3.36	1.79	2.616	9659	11	49	56
13	13	13	52.84		7	13 03.3	3.36	1.79	.615	8840	11	48	28
14	13	16	20.94		7	28 30.8	3.36	1.79	.614	7416	11	46	59
15	13	18	49.36		7	43 55.9	3.36	1.79	.613	5383	11	45	32
16	13	21	18.10		7	59 18.5	3.37	1.79	.612	2746	11	44	04
17	13	23	47.17	-	8	14 38.5	3.37	1.79	2.610	9506	11	42	37
18	13	26	16.58		8	29 55.7	3.37	1.79	.609	5664	11	41	10
19	13	28	46.34		8	45 10.0	3.37	1.79	.608	1228	11	39	43
20	13	31	16.43		9	00 21.4	3.37	1.80	.606	6199	11	38	17
21	13	33	46.87		9	15 29.6	3.38	1.80	.605	0584	11	36	51
22	13	36	17.67	-	9	30 34.6	3.38	1.80	2.603	4387	11	35	26
23	13	38	48.82		9	45 36.2	3.38	1.80	.601	7612	11	34	01
24	13	41	20.34		10	00 34.3	3.38	1.80	.600	0267	11	32	36
25	13	43	52.24		10	15 28.8	3.38	1.80	.598	2354	11	31	11
26	13	46	24.51		10	30 19.6	3.39	1.80	.596	3878	11	29	47
27	13	48	57.16	-10	45	06.5	3.39	1.80	2.594	4842	11	28	24
28	13	51	30.21		10	59 49.5	3.39	1.81	.592	5255	11	27	01
29	13	54	03.66		11	14 28.3	3.39	1.81	.590	5119	11	25	38
30	13	56	37.51		11	29 03.0	3.40	1.81	.588	4436	11	24	15
31	13	59	11.78		11	43 33.4	3.40	1.81	.586	3212	11	22	53
NOV. 1	14	01	46.48	-11	57	59.3	3.40	1.81	2.584	1449	11	21	32

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.			
		H	M	S	° ' "			"	"	AU		H	M	S	
NOV.	2	14	04	21.61	-12	12	20.7	3.41	1.81	2.581	9151	11	20	11	
	3	14	06	57.17	12	26	37.5	3.41	1.81	.579	6317	11	18	50	
	4	14	09	33.19	12	40	49.4	3.41	1.82	.577	2951	11	17	30	
	5	14	12	09.65	12	54	56.4	3.42	1.82	.574	9050	11	16	10	
	6	14	14	46.56	13	08	58.4	3.42	1.82	.572	4616	11	14	50	
	7	14	17	23.93	-13	22	55.2	3.42	1.82	2.569	9648	11	13	32	
	8	14	20	01.77	13	36	46.6	3.43	1.82	.567	4145	11	12	13	
	9	14	22	40.07	13	50	32.5	3.43	1.82	.564	8107	11	10	55	
	10	14	25	18.85	14	04	12.8	3.43	1.83	.562	1532	11	09	38	
	11	14	27	58.11	14	17	47.3	3.44	1.83	.559	4423	11	08	21	
	12	14	30	37.86	-14	31	16.0	3.44	1.83	2.556	6780	11	07	04	
	13	14	33	18.09	14	44	38.6	3.44	1.83	.553	8605	11	05	48	
	14	14	35	58.80	14	57	55.0	3.45	1.83	.550	9900	11	04	33	
	15	14	38	40.01	15	11	05.1	3.45	1.84	.548	0669	11	03	18	
	16	14	41	21.72	15	24	08.8	3.46	1.84	.545	0917	11	02	03	
	17	14	44	03.91	-15	37	05.8	3.46	1.84	2.542	0649	11	00	49	
	18	14	46	46.60	15	49	56.1	3.46	1.84	.538	9871	10	59	35	
	19	14	49	29.79	16	02	39.5	3.47	1.85	.535	8590	10	58	22	
	20	14	52	13.47	16	15	15.9	3.47	1.85	.532	6810	10	57	10	
	21	14	54	57.66	16	27	45.1	3.48	1.85	.529	4538	10	55	58	
	22	14	57	42.35	-16	40	07.0	3.48	1.85	2.526	1781	10	54	46	
	23	15	00	27.55	16	52	21.3	3.49	1.86	.522	8545	10	53	35	
	24	15	03	13.26	17	04	28.1	3.49	1.86	.519	4834	10	52	24	
	25	15	05	59.48	17	16	27.1	3.50	1.86	.516	0657	10	51	14	
	26	15	08	46.22	17	28	18.3	3.50	1.86	.512	6019	10	50	05	
	27	15	11	33.48	-17	40	01.4	3.50	1.87	2.509	0924	10	48	56	
	28	15	14	21.27	17	51	36.4	3.51	1.87	.505	5381	10	47	47	
	29	15	17	09.59	18	03	03.1	3.51	1.87	.501	9393	10	46	39	
	30	15	19	58.45	18	14	21.4	3.52	1.87	.498	2963	10	45	32	
	DEC.	1	15	22	47.83	18	25	31.1	3.53	1.88	.494	6099	10	44	25
	2	15	25	37.76	-18	36	32.2	3.53	1.88	2.490	8800	10	43	19	
3	15	28	28.22	18	47	24.4	3.54	1.88	.487	1069	10	42	13		
4	15	31	19.21	18	58	07.6	3.54	1.88	.483	2906	10	41	08		
5	15	34	10.74	19	08	41.6	3.55	1.89	.479	4313	10	40	03		
6	15	37	02.82	19	19	06.3	3.55	1.89	.475	5289	10	38	59		
7	15	39	55.43	-19	29	21.6	3.56	1.89	2.471	5838	10	37	55		
8	15	42	48.57	19	39	27.3	3.56	1.90	.467	5958	10	36	52		
9	15	45	42.26	19	49	23.2	3.57	1.90	.463	5651	10	35	49		
10	15	48	36.48	19	59	09.3	3.58	1.90	.459	4919	10	34	47		
11	15	51	31.24	20	08	45.3	3.58	1.91	.455	3767	10	33	46		
12	15	54	26.53	-20	18	11.2	3.59	1.91	2.451	2196	10	32	45		
13	15	57	22.34	20	27	26.8	3.59	1.91	.447	0210	10	31	44		
14	16	00	18.67	20	36	32.0	3.60	1.92	.442	7817	10	30	44		
15	16	03	15.52	20	45	26.6	3.61	1.92	.438	5020	10	29	45		
16	16	06	12.87	20	54	10.4	3.61	1.92	.434	1826	10	28	46		
17	16	09	10.73	-21	02	43.4	3.62	1.93	2.429	8243	10	27	47		
18	16	12	09.08	21	11	05.4	3.63	1.93	.425	4277	10	26	50		
19	16	15	07.93	21	19	16.3	3.63	1.93	.420	9935	10	25	52		
20	16	18	07.27	21	27	15.8	3.64	1.94	.416	5223	10	24	55		
21	16	21	07.10	21	35	04.0	3.65	1.94	.412	0152	10	23	59		
22	16	24	07.41	-21	42	40.6	3.65	1.94	2.407	4726	10	23	03		
23	16	27	08.19	21	50	05.5	3.66	1.95	.402	8953	10	22	07		
24	16	30	09.45	21	57	18.6	3.67	1.95	.398	2841	10	21	12		
25	16	33	11.18	22	04	19.9	3.67	1.96	.393	6396	10	20	17		
26	16	36	13.38	22	11	09.0	3.68	1.96	.388	9626	10	19	23		
27	16	39	16.04	-22	17	46.1	3.69	1.96	2.384	2539	10	18	30		
28	16	42	19.16	22	24	10.9	3.70	1.97	.379	5140	10	17	36		
29	16	45	22.72	22	30	23.3	3.70	1.97	.374	7433	10	16	44		
30	16	48	26.73	22	36	23.2	3.71	1.97	.369	9425	10	15	51		
31	16	51	31.18	22	42	10.5	3.72	1.98	.365	1117	10	14	59		

DATE	APPT. R.A.	APPT. DEC.	H.P.	S.D.	T.D.	E.T.
	H M S	° ' "	°	°	AU	H M S
JAN. 1	16 54 36.06	-22 47 45.1	3.73	1.98	2.360 2511	10 14 08
2	16 57 41.36	22 53 06.8	3.73	1.99	.355 3612	10 13 17
3	17 00 47.08	22 58 15.5	3.74	1.99	.350 4418	10 12 26
4	17 03 53.21	23 03 11.1	3.75	2.00	.345 4931	10 11 36
5	17 06 59.74	23 07 53.5	3.76	2.00	.340 5153	10 10 46
6	17 10 06.67	-23 12 22.7	3.77	2.00	2.335 5087	10 09 57
7	17 13 13.98	23 16 38.4	3.77	2.01	.330 4734	10 09 08
8	17 16 21.66	23 20 40.7	3.78	2.01	.325 4097	10 08 19
9	17 19 29.70	23 24 29.5	3.79	2.02	.320 3182	10 07 31
10	17 22 38.10	23 28 04.6	3.80	2.02	.315 1991	10 06 43
11	17 25 46.82	-23 31 25.9	3.81	2.03	2.310 0530	10 05 55
12	17 28 55.87	23 34 33.5	3.82	2.03	.304 8807	10 05 08
13	17 32 05.22	23 37 27.2	3.82	2.04	.299 6825	10 04 21
14	17 35 14.87	23 40 06.9	3.83	2.04	.294 4593	10 03 34
15	17 38 24.80	23 42 32.5	3.84	2.04	.289 2116	10 02 47
16	17 41 35.00	-23 44 44.0	3.85	2.05	2.283 9404	10 02 01
17	17 44 45.45	23 46 41.4	3.86	2.05	.278 6462	10 01 15
18	17 47 56.15	23 48 24.4	3.87	2.06	.273 3299	10 00 29
19	17 51 07.09	23 49 53.2	3.88	2.06	.267 9922	9 59 44
20	17 54 18.25	23 51 07.6	3.89	2.07	.262 6339	9 58 59
21	17 57 29.63	-23 52 07.6	3.90	2.07	2.257 2558	9 58 14
22	18 00 41.20	23 52 53.1	3.91	2.08	.251 8586	9 57 29
23	18 03 52.96	23 53 24.1	3.91	2.08	.246 4433	9 56 44
24	18 07 04.91	23 53 40.6	3.92	2.09	.241 0103	9 56 00
25	18 10 17.02	23 53 42.5	3.93	2.09	.235 5607	9 55 15
26	18 13 29.28	-23 53 29.8	3.94	2.10	2.230 0948	9 54 31
27	18 16 41.69	23 53 02.5	3.95	2.10	.224 6133	9 53 47
28	18 19 54.23	23 52 20.5	3.96	2.11	.219 1166	9 53 03
29	18 23 06.89	23 51 23.8	3.97	2.11	.213 6049	9 52 19
30	18 26 19.66	23 50 12.3	3.98	2.12	.208 0786	9 51 35
31	18 29 32.53	-23 48 46.1	3.99	2.12	2.202 5378	9 50 52
FEB. 1	18 32 45.48	23 47 05.1	4.00	2.13	.196 9823	9 50 08
2	18 35 58.52	23 45 09.4	4.01	2.14	.191 4127	9 49 25
3	18 39 11.62	23 42 58.8	4.02	2.14	.185 8289	9 48 41
4	18 42 24.77	23 40 33.5	4.03	2.15	.180 2312	9 47 58
5	18 45 37.96	-23 37 53.5	4.04	2.15	2.174 6196	9 47 15
6	18 48 51.16	23 34 58.8	4.05	2.16	.168 9947	9 46 31
7	18 52 04.38	23 31 49.3	4.06	2.16	.163 3569	9 45 48
8	18 55 17.58	23 28 25.3	4.08	2.17	.157 7065	9 45 05
9	18 58 30.75	23 24 46.5	4.09	2.17	.152 0441	9 44 21
10	19 01 43.88	-23 20 53.2	4.10	2.18	2.146 3703	9 43 38
11	19 04 56.96	23 16 45.2	4.11	2.19	.140 6855	9 42 54
12	19 08 09.97	23 12 22.8	4.12	2.19	.134 9904	9 42 11
13	19 11 22.90	23 07 45.8	4.13	2.20	.129 2856	9 41 27
14	19 14 35.73	23 02 54.4	4.14	2.20	.123 5719	9 40 43
15	19 17 48.46	-22 57 48.6	4.15	2.21	2.117 8498	9 40 00
16	19 21 01.07	22 52 28.4	4.16	2.22	.112 1201	9 39 16
17	19 24 13.55	22 46 53.9	4.17	2.22	.106 3835	9 38 32
18	19 27 25.89	22 41 05.2	4.19	2.23	.100 6407	9 37 47
19	19 30 38.08	22 35 02.4	4.20	2.23	.094 8924	9 37 03
20	19 33 50.11	-22 28 45.5	4.21	2.24	2.089 1395	9 36 18
21	19 37 01.97	22 22 14.5	4.22	2.25	.083 3825	9 35 34
22	19 40 13.65	22 15 29.6	4.23	2.25	.077 6222	9 34 49
23	19 43 25.14	22 08 30.9	4.24	2.26	.071 8593	9 34 03
24	19 46 36.44	22 01 18.4	4.26	2.27	.066 0942	9 33 18
25	19 49 47.52	-21 53 52.1	4.27	2.27	2.060 3273	9 32 33
26	19 52 58.40	21 46 12.2	4.28	2.28	.054 5589	9 31 47
27	19 56 09.05	21 38 18.8	4.29	2.28	.048 7893	9 31 01
28	19 59 19.48	21 30 11.8	4.30	2.29	.043 0184	9 30 15
MAR. 1	20 02 29.68	21 21 51.5	4.32	2.30	.037 2465	9 29 28
2	20 05 39.65	-21 13 17.9	4.33	2.30	2.031 4733	9 28 42

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
		H	M	S	°	'	''	''	''	AU	H M S
MAR.	3	20	08	49.37	-21	04	31.1	4.34	2.31	2.025 6991	9 27 55
	4	20	11	58.84	20	55	31.3	4.35	2.32	.019 9237	9 27 08
	5	20	15	08.05	20	46	18.6	4.37	2.32	.014 1475	9 26 20
	6	20	18	16.98	20	36	53.1	4.38	2.33	.008 3704	9 25 32
	7	20	21	25.64	20	27	14.9	4.39	2.34	2.002 5928	9 24 44
	8	20	24	34.00	-20	17	24.2	4.40	2.34	1.996 8147	9 23 56
	9	20	27	42.07	20	07	21.1	4.42	2.35	.991 0368	9 23 08
	10	20	30	49.82	19	57	05.8	4.43	2.36	.985 2593	9 22 19
	11	20	33	57.27	19	46	38.3	4.44	2.36	.979 4824	9 21 30
	12	20	37	04.39	19	35	58.9	4.46	2.37	.973 7068	9 20 40
	13	20	40	11.18	-19	25	07.5	4.47	2.38	1.967 9327	9 19 50
	14	20	43	17.64	19	14	04.5	4.48	2.39	.962 1608	9 19 00
	15	20	46	23.77	19	02	49.9	4.50	2.39	.956 3914	9 18 09
	16	20	49	29.55	18	51	23.9	4.51	2.40	.950 6251	9 17 19
	17	20	52	34.99	18	39	46.7	4.52	2.41	.944 8624	9 16 27
	18	20	55	40.08	-18	27	58.3	4.54	2.41	1.939 1041	9 15 36
	19	20	58	44.81	18	15	58.9	4.55	2.42	.933 3505	9 14 44
APR.	20	21	01	49.19	18	03	48.7	4.56	2.43	.927 6023	9 13 52
	21	21	04	53.21	17	51	27.9	4.58	2.44	.921 8602	9 12 59
	22	21	07	56.87	17	38	56.5	4.59	2.44	.916 1246	9 12 06
	23	21	11	00.17	-17	26	14.8	4.60	2.45	1.910 3961	9 11 13
	24	21	14	03.10	17	13	22.9	4.62	2.46	.904 6749	9 10 19
	25	21	17	05.67	17	00	20.9	4.63	2.46	.898 9615	9 09 25
	26	21	20	07.88	16	47	09.0	4.64	2.47	.893 2560	9 08 30
	27	21	23	09.73	16	33	47.3	4.66	2.48	.887 5586	9 07 36
	28	21	26	11.23	-16	20	15.9	4.67	2.49	1.881 8694	9 06 40
	29	21	29	12.38	16	06	35.1	4.69	2.49	.876 1881	9 05 45
	30	21	32	13.17	15	52	45.0	4.70	2.50	.870 5145	9 04 49
	31	21	35	13.62	15	38	45.7	4.72	2.51	.864 8487	9 03 53
	1	21	38	13.72	15	24	37.4	4.73	2.52	.859 1904	9 02 56
	2	21	41	13.48	-15	10	20.4	4.74	2.52	1.853 5393	9 01 59
	3	21	44	12.87	14	55	54.8	4.76	2.53	.847 8956	9 01 02
	4	21	47	11.92	14	41	20.8	4.77	2.54	.842 2592	9 00 05
	5	21	50	10.61	14	26	38.5	4.79	2.55	.836 6299	8 59 07
MAY	6	21	53	08.95	14	11	48.3	4.80	2.56	.831 0080	8 58 08
	7	21	56	06.93	-13	56	50.2	4.82	2.56	1.825 3936	8 57 10
	8	21	59	04.56	13	41	44.4	4.83	2.57	.819 7866	8 56 11
	9	22	02	01.83	13	26	31.2	4.85	2.58	.814 1873	8 55 11
	10	22	04	58.76	13	11	10.7	4.86	2.59	.808 5959	8 54 11
	11	22	07	55.33	12	55	43.0	4.88	2.60	.803 0127	8 53 11
	12	22	10	51.55	-12	40	08.5	4.89	2.60	1.797 4379	8 52 11
	13	22	13	47.43	12	24	27.2	4.91	2.61	.791 8715	8 51 10
	14	22	16	42.96	12	08	39.4	4.92	2.62	.786 3142	8 50 09
	15	22	19	38.15	11	52	45.2	4.94	2.63	.780 7662	8 49 08
	16	22	22	33.00	11	36	44.8	4.95	2.64	.775 2278	8 48 06
	17	22	25	27.51	-11	20	38.4	4.97	2.64	1.769 6995	8 47 04
	18	22	28	21.68	11	04	26.3	4.98	2.65	.764 1817	8 46 01
	19	22	31	15.53	10	48	08.5	5.00	2.66	.758 6748	8 44 59
	20	22	34	09.05	10	31	45.2	5.02	2.67	.753 1788	8 43 55
	21	22	37	02.24	10	15	16.7	5.03	2.68	.747 6942	8 42 52
	22	22	39	55.12	-9	58	43.1	5.05	2.69	1.742 2213	8 41 48
	23	22	42	47.70	9	42	04.5	5.06	2.69	.736 7598	8 40 44
	24	22	45	39.97	9	25	21.1	5.08	2.70	.731 3100	8 39 40
	25	22	48	31.96	9	08	33.1	5.10	2.71	.725 8716	8 38 35
	26	22	51	23.67	8	51	40.6	5.11	2.72	.720 4444	8 37 30
	27	22	54	15.10	-8	34	43.8	5.13	2.73	1.715 0281	8 36 25
	28	22	57	06.26	8	17	43.0	5.14	2.74	.709 6224	8 35 20
	29	22	59	57.15	8	00	38.2	5.16	2.75	.704 2267	8 34 14
	30	23	02	47.79	7	43	29.8	5.18	2.75	.698 8408	8 33 08
	1	23	05	38.17	7	26	17.8	5.19	2.76	.693 4643	8 32 02
	2	23	08	28.29	-7	09	02.6	5.21	2.77	1.688 0969	8 30 55

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.			
		H	M	S	°	'	"			"	"	AU	H	M	S
MAY	3	23	11	18.17	-	6	51	44.2	5.23	2.78	1.682	7385	8	29	49
	4	23	14	07.79		6	34	22.9	5.24	2.79	.677	3887	8	28	42
	5	23	16	57.17		6	16	58.9	5.26	2.80	.672	0474	8	27	35
	6	23	19	46.31		5	59	32.4	5.28	2.81	.666	7144	8	26	27
	7	23	22	35.22		5	42	03.5	5.29	2.82	.661	3896	8	25	19
	8	23	25	23.89	-	5	24	32.5	5.31	2.83	1.656	0730	8	24	12
	9	23	28	12.33		5	06	59.6	5.33	2.84	.650	7644	8	23	03
	10	23	31	00.55		4	49	24.9	5.34	2.84	.645	4638	8	21	55
	11	23	33	48.55		4	31	48.6	5.36	2.85	.640	1714	8	20	46
	12	23	36	36.34		4	14	10.9	5.38	2.86	.634	8870	8	19	38
	13	23	39	23.91	-	3	56	32.0	5.40	2.87	1.629	6108	8	18	29
	14	23	42	11.27		3	38	52.2	5.41	2.88	.624	3432	8	17	19
	15	23	44	58.42		3	21	11.5	5.43	2.89	.619	0842	8	16	10
	16	23	47	45.37		3	03	30.2	5.45	2.90	.613	8340	8	15	00
	17	23	50	32.12		2	45	48.4	5.47	2.91	.608	5928	8	13	51
	18	23	53	18.68	-	2	28	06.3	5.48	2.92	1.603	3607	8	12	41
	19	23	56	05.05		2	10	24.2	5.50	2.93	.598	1378	8	11	30
20	23	58	51.25		1	52	42.0	5.52	2.94	.592	9242	8	10	20	
21	0	01	37.27		1	35	00.1	5.54	2.95	.587	7198	8	09	10	
22	0	04	23.14		1	17	18.5	5.56	2.96	.582	5244	8	07	59	
23	0	07	08.86	-	0	59	37.4	5.58	2.97	1.577	3376	8	06	48	
24	0	09	54.44		0	41	56.9	5.59	2.98	.572	1592	8	05	37	
25	0	12	39.88		0	24	17.3	5.61	2.99	.566	9889	8	04	26	
26	0	15	25.19	-	0	06	38.7	5.63	3.00	.561	8258	8	03	15	
27	0	18	10.38	+	0	10	58.8	5.65	3.01	.556	6699	8	02	03	
28	0	20	55.44	+	0	28	34.8	5.67	3.02	1.551	5202	8	00	52	
29	0	23	40.39		0	46	09.4	5.69	3.03	.546	3764	7	59	40	
30	0	26	25.23		1	03	42.2	5.71	3.04	.541	2378	7	58	29	
31	0	29	09.96		1	21	13.1	5.72	3.05	.536	1041	7	57	17	
JUNE	1	0	31	54.58		1	38	41.9	5.74	3.06	.530	9748	7	56	05
	2	0	34	39.09	+	1	56	08.4	5.76	3.07	1.525	8496	7	54	53
	3	0	37	23.50		2	13	32.5	5.78	3.08	.520	7278	7	53	41
	4	0	40	07.82		2	30	54.0	5.80	3.09	.515	6095	7	52	29
	5	0	42	52.03		2	48	12.6	5.82	3.10	.510	4941	7	51	16
	6	0	45	36.16		3	05	28.3	5.84	3.11	.505	3813	7	50	04
	7	0	48	20.19	+	3	22	40.9	5.86	3.12	1.500	2710	7	48	51
	8	0	51	04.13		3	39	50.1	5.88	3.13	.495	1629	7	47	39
	9	0	53	47.97		3	56	55.8	5.90	3.14	.490	0568	7	46	26
	10	0	56	31.73		4	13	57.9	5.92	3.15	.484	9530	7	45	13
	11	0	59	15.39		4	30	56.2	5.94	3.16	.479	8510	7	44	00
	12	1	01	58.96	+	4	47	50.4	5.96	3.17	1.474	7513	7	42	47
	13	1	04	42.44		5	04	40.5	5.98	3.18	.469	6536	7	41	34
	14	1	07	25.83		5	21	26.3	6.00	3.20	.464	5582	7	40	21
	15	1	10	09.14		5	38	07.6	6.03	3.21	.459	4652	7	39	08
	16	1	12	52.36		5	54	44.3	6.05	3.22	.454	3743	7	37	55
	17	1	15	35.50	+	6	11	16.3	6.07	3.23	1.449	2858	7	36	41
18	1	18	18.57		6	27	43.3	6.09	3.24	.444	1993	7	35	28	
19	1	21	01.57		6	44	05.4	6.11	3.25	.439	1147	7	34	14	
20	1	23	44.52		7	00	22.4	6.13	3.26	.434	0314	7	33	01	
21	1	26	27.41		7	16	34.2	6.15	3.28	.428	9494	7	31	47	
22	1	29	10.24	+	7	32	40.5	6.18	3.29	1.423	8680	7	30	34	
23	1	31	53.02		7	48	41.4	6.20	3.30	.418	7867	7	29	20	
24	1	34	35.75		8	04	36.5	6.22	3.31	.413	7049	7	28	06	
25	1	37	18.43		8	20	25.9	6.24	3.32	.408	6220	7	26	52	
26	1	40	01.06		8	36	09.2	6.27	3.33	.403	5374	7	25	38	
27	1	42	43.64	+	8	51	46.5	6.29	3.35	1.398	4504	7	24	24	
28	1	45	26.17		9	07	17.5	6.31	3.36	.393	3605	7	23	10	
29	1	48	08.64		9	22	42.2	6.33	3.37	.388	2671	7	21	56	
30	1	50	51.06		9	38	00.2	6.36	3.38	.383	1697	7	20	42	
JULY	1	1	53	33.42		9	53	11.6	6.38	3.40	.378	0679	7	19	28
	2	1	56	15.71	+10	08	16.2	6.41	3.41	1.372	9611	7	18	14	

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
	H	M	S	°	'	''	°	'	AU	H M S
JULY 3	1	58	57.95	+10	23	13.9	6.43	3.42	1.367 8490	7 17 00
4	2	01	40.11	10	38	04.5	6.45	3.43	.362 7309	7 15 45
5	2	04	22.21	10	52	47.9	6.48	3.45	.357 6068	7 14 31
6	2	07	04.22	11	07	23.9	6.50	3.46	.352 4763	7 13 16
7	2	09	46.15	11	21	52.6	6.53	3.47	.347 3389	7 12 02
8	2	12	27.99	+11	36	13.6	6.55	3.49	1.342 1947	7 10 47
9	2	15	09.73	11	50	26.9	6.58	3.50	.337 0436	7 09 32
10	2	17	51.35	12	04	32.4	6.60	3.51	.331 8856	7 08 17
11	2	20	32.87	12	18	30.0	6.63	3.53	.326 7208	7 07 02
12	2	23	14.26	12	32	19.5	6.65	3.54	.321 5490	7 05 47
13	2	25	55.52	+12	46	00.9	6.68	3.56	1.316 3707	7 04 32
14	2	28	36.66	12	59	34.0	6.71	3.57	.311 1857	7 03 17
15	2	31	17.68	13	12	58.8	6.73	3.58	.305 9939	7 02 01
16	2	33	58.56	13	26	15.2	6.76	3.60	.300 7954	7 00 45
17	2	36	39.31	13	39	23.2	6.79	3.61	.295 5899	6 59 30
18	2	39	19.92	+13	52	22.7	6.82	3.63	1.290 3771	6 58 14
19	2	42	00.40	14	05	13.5	6.84	3.64	.285 1567	6 56 58
20	2	44	40.73	14	17	55.6	6.87	3.66	.279 9284	6 55 42
21	2	47	20.92	14	30	29.1	6.90	3.67	.274 6916	6 54 25
22	2	50	00.95	14	42	53.6	6.93	3.69	.269 4459	6 53 09
23	2	52	40.82	+14	55	09.3	6.96	3.70	1.264 1907	6 51 52
24	2	55	20.51	15	07	16.0	6.99	3.72	.258 9253	6 50 35
25	2	58	00.03	15	19	13.6	7.01	3.73	.253 6494	6 49 18
26	3	00	39.37	15	31	02.1	7.04	3.75	.248 3624	6 48 01
27	3	03	18.51	15	42	41.3	7.07	3.76	.243 0636	6 46 44
28	3	05	57.44	+15	54	11.3	7.10	3.78	1.237 7526	6 45 26
29	3	08	36.15	16	05	32.0	7.14	3.80	.232 4292	6 44 08
30	3	11	14.63	16	16	43.3	7.17	3.81	.227 0926	6 42 50
31	3	13	52.88	16	27	45.1	7.20	3.83	.221 7427	6 41 32
AUG. 1	3	16	30.87	16	38	37.5	7.23	3.85	.216 3789	6 40 13
2	3	19	08.59	+16	49	20.3	7.26	3.86	1.211 0010	6 38 54
3	3	21	46.02	16	59	53.6	7.29	3.88	.205 6087	6 37 35
4	3	24	23.15	17	10	17.3	7.33	3.90	.200 2018	6 36 16
5	3	26	59.96	17	20	31.3	7.36	3.92	.194 7803	6 34 56
6	3	29	36.43	17	30	35.6	7.39	3.93	.189 3442	6 33 36
7	3	32	12.54	+17	40	30.3	7.43	3.95	1.183 8933	6 32 15
8	3	34	48.27	17	50	15.1	7.46	3.97	.178 4281	6 30 55
9	3	37	23.61	17	59	50.2	7.50	3.99	.172 9486	6 29 33
10	3	39	58.55	18	09	15.6	7.53	4.01	.167 4553	6 28 12
11	3	42	33.07	18	18	31.2	7.57	4.03	.161 9483	6 26 50
12	3	45	07.15	+18	27	37.0	7.60	4.05	1.156 4280	6 25 27
13	3	47	40.80	18	36	33.1	7.64	4.07	.150 8942	6 24 04
14	3	50	13.99	18	45	19.4	7.68	4.09	.145 3471	6 22 41
15	3	52	46.71	18	53	56.1	7.72	4.11	.139 7867	6 21 17
16	3	55	18.95	19	02	23.2	7.75	4.13	.134 2129	6 19 52
17	3	57	50.70	+19	10	40.6	7.79	4.15	1.128 6255	6 18 28
18	4	00	21.93	19	18	48.4	7.83	4.17	.123 0242	6 17 02
19	4	02	52.63	19	26	46.6	7.87	4.19	.117 4088	6 15 36
20	4	05	22.80	19	34	35.3	7.91	4.21	.111 7789	6 14 10
21	4	07	52.39	19	42	14.4	7.95	4.23	.106 1345	6 12 43
22	4	10	21.41	+19	49	44.1	7.99	4.25	1.100 4750	6 11 15
23	4	12	49.83	19	57	04.3	8.03	4.27	.094 8003	6 09 47
24	4	15	17.62	20	04	15.2	8.07	4.30	.089 1100	6 08 18
25	4	17	44.78	20	11	16.7	8.12	4.32	.083 4040	6 06 49
26	4	20	11.27	20	18	08.9	8.16	4.34	.077 6820	6 05 19
27	4	22	37.08	+20	24	51.9	8.20	4.37	1.071 9439	6 03 48
28	4	25	02.17	20	31	25.8	8.25	4.39	.066 1894	6 02 16
29	4	27	26.53	20	37	50.6	8.29	4.41	.060 4188	6 00 44
30	4	29	50.13	20	44	06.5	8.34	4.44	.054 6315	5 59 11
31	4	32	12.94	20	50	13.4	8.38	4.46	.048 8279	5 57 37
SEPT. 1	4	34	34.93	+20	56	11.6	8.43	4.49	1.043 0082	5 56 02

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	"			AU		H	M	S
SEPT. 2	4	36	56.06	+21	02	01.0	8.48	4.51	1.037	1721	5	54	27
3	4	39	16.31	21	07	41.8	8.53	4.54	.031	3204	5	52	50
4	4	41	35.65	21	13	14.1	8.58	4.56	.025	4532	5	51	13
5	4	43	54.04	21	18	37.9	8.63	4.59	.019	5712	5	49	35
6	4	46	11.45	21	23	53.5	8.68	4.62	.013	6750	5	47	56
7	4	48	27.86	+21	29	00.8	8.73	4.64	1.007	7652	5	46	15
8	4	50	43.24	21	34	00.1	8.78	4.67	1.001	8426	5	44	34
9	4	52	57.57	21	38	51.4	8.83	4.70	0.995	9078	5	42	52
10	4	55	10.83	21	43	35.0	8.88	4.73	.989	9616	5	41	08
11	4	57	22.98	21	48	10.9	8.94	4.76	.984	0043	5	39	24
12	4	59	34.01	+21	52	39.4	8.99	4.79	0.978	0366	5	37	38
13	5	01	43.88	21	57	00.5	9.05	4.81	.972	0588	5	35	51
14	5	03	52.57	22	01	14.5	9.10	4.84	.966	0713	5	34	03
15	5	06	00.05	22	05	21.4	9.16	4.87	.960	0745	5	32	14
16	5	08	06.29	22	09	21.4	9.22	4.91	.954	0685	5	30	23
17	5	10	11.27	+22	13	14.8	9.28	4.94	0.948	0537	5	28	32
18	5	12	14.95	22	17	01.6	9.34	4.97	.942	0303	5	26	39
19	5	14	17.29	22	20	42.0	9.40	5.00	.935	9988	5	24	44
20	5	16	18.28	22	24	16.3	9.46	5.03	.929	9592	5	22	49
21	5	18	17.87	22	27	44.5	9.52	5.07	.923	9122	5	20	52
22	5	20	16.02	+22	31	06.9	9.58	5.10	0.917	8580	5	18	53
23	5	22	12.71	22	34	23.7	9.64	5.13	.911	7971	5	16	53
24	5	24	07.89	22	37	35.1	9.71	5.17	.905	7299	5	14	51
25	5	26	01.52	22	40	41.2	9.77	5.20	.899	6570	5	12	48
26	5	27	53.56	22	43	42.4	9.84	5.24	.893	5791	5	10	44
27	5	29	43.97	+22	46	38.8	9.91	5.27	0.887	4966	5	08	37
28	5	31	32.70	22	49	30.6	9.98	5.31	.881	4107	5	06	29
29	5	33	19.70	22	52	18.0	10.05	5.35	.875	3217	5	04	20
30	5	35	04.92	22	55	01.4	10.12	5.38	.869	2310	5	02	08
OCT. 1	5	36	48.32	22	57	40.9	10.19	5.42	.863	1396	4	59	55
2	5	38	29.84	+23	00	16.7	10.26	5.46	0.857	0488	4	57	40
3	5	40	09.43	23	02	49.0	10.33	5.50	.850	9598	4	55	22
4	5	41	47.05	23	05	18.2	10.41	5.54	.844	8744	4	53	03
5	5	43	22.65	23	07	44.3	10.48	5.58	.838	7942	4	50	42
6	5	44	56.18	23	10	07.7	10.56	5.62	.832	7206	4	48	19
7	5	46	27.60	+23	12	28.6	10.64	5.66	0.826	6556	4	45	54
8	5	47	56.87	23	14	47.2	10.72	5.70	.820	6010	4	43	26
9	5	49	23.94	23	17	03.8	10.80	5.75	.814	5580	4	40	56
10	5	50	48.77	23	19	18.7	10.88	5.79	.808	5286	4	38	25
11	5	52	11.32	23	21	31.9	10.96	5.83	.802	5143	4	35	50
12	5	53	31.53	+23	23	43.9	11.04	5.88	0.796	5167	4	33	14
13	5	54	49.36	23	25	54.8	11.12	5.92	.790	5371	4	30	35
14	5	56	04.77	23	28	04.9	11.21	5.96	.784	5772	4	27	54
15	5	57	17.70	23	30	14.4	11.29	6.01	.778	6385	4	25	10
16	5	58	28.10	23	32	23.4	11.38	6.06	.772	7226	4	22	24
17	5	59	35.92	+23	34	32.3	11.47	6.10	0.766	8312	4	19	35
18	6	00	41.12	23	36	41.3	11.56	6.15	.760	9658	4	16	43
19	6	01	43.63	23	38	50.6	11.65	6.20	.755	1283	4	13	49
20	6	02	43.41	23	41	00.4	11.74	6.25	.749	3207	4	10	52
21	6	03	40.39	23	43	11.0	11.83	6.29	.743	5446	4	07	53
22	6	04	34.51	+23	45	22.6	11.92	6.34	0.737	8022	4	04	50
23	6	05	25.72	23	47	35.3	12.01	6.39	.732	0955	4	01	45
24	6	06	13.95	23	49	49.5	12.11	6.44	.726	4267	3	58	36
25	6	06	59.15	23	52	05.3	12.20	6.49	.720	7982	3	55	25
26	6	07	41.24	23	54	22.9	12.30	6.54	.715	2125	3	52	10
27	6	08	20.16	+23	56	42.5	12.39	6.59	0.709	6721	3	48	52
28	6	08	55.84	23	59	04.2	12.49	6.65	.704	1799	3	45	32
29	6	09	28.22	24	01	28.2	12.59	6.70	.698	7387	3	42	07
30	6	09	57.23	24	03	54.7	12.68	6.75	.693	3520	3	38	40
31	6	10	22.82	24	06	23.7	12.78	6.80	.688	0228	3	35	09
NOV. 1	6	10	44.93	+24	08	55.3	12.88	6.85	0.682	7546	3	31	34

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
	H	M	S	°	'	"	"	"	AU	H M S
NOV. 2	6	11	03.51	+24	11	29.7	12.98	6.91	0.677 5512	3 27 56
3	6	11	18.50	24	14	06.7	13.08	6.96	.672 4163	3 24 15
4	6	11	29.86	24	16	46.6	13.18	7.01	.667 3535	3 20 30
5	6	11	37.56	24	19	29.3	13.28	7.07	.662 3668	3 16 41
6	6	11	41.55	24	22	14.9	13.38	7.12	.657 4599	3 12 49
7	6	11	41.80	+24	25	03.2	13.47	7.17	0.652 6365	3 08 52
8	6	11	38.28	24	27	54.2	13.57	7.22	.647 9005	3 04 53
9	6	11	30.98	24	30	47.8	13.67	7.28	.643 2553	3 00 49
10	6	11	19.85	24	33	44.0	13.77	7.33	.638 7049	2 56 41
11	6	11	04.90	24	36	42.5	13.87	7.38	.634 2526	2 52 30
12	6	10	46.10	+24	39	43.2	13.96	7.43	0.629 9025	2 48 15
13	6	10	23.44	24	42	46.0	14.06	7.48	.625 6580	2 43 56
14	6	09	56.92	24	45	50.6	14.15	7.53	.621 5232	2 39 34
15	6	09	26.54	24	48	56.7	14.24	7.58	.617 5017	2 35 07
16	6	08	52.30	24	52	04.2	14.33	7.63	.613 5974	2 30 37
17	6	08	14.22	+24	55	12.8	14.42	7.67	0.609 8143	2 26 03
18	6	07	32.31	24	58	22.1	14.51	7.72	.606 1563	2 21 25
19	6	06	46.59	25	01	31.8	14.59	7.77	.602 6273	2 16 43
20	6	05	57.10	25	04	41.5	14.68	7.81	.599 2314	2 11 57
21	6	05	03.87	25	07	51.0	14.76	7.85	.595 9724	2 07 08
22	6	04	06.94	+25	10	59.7	14.83	7.89	0.592 8549	2 02 15
23	6	03	06.36	25	14	07.3	14.91	7.93	.589 8827	1 57 19
24	6	02	02.20	25	17	13.3	14.98	7.97	.587 0602	1 52 19
25	6	00	54.53	25	20	17.3	15.05	8.01	.584 3918	1 47 16
26	5	59	43.43	25	23	18.6	15.11	8.04	.581 8817	1 42 09
27	5	58	29.00	+25	26	16.8	15.17	8.08	0.579 5341	1 36 59
28	5	57	11.35	25	29	11.5	15.23	8.11	.577 3537	1 31 45
29	5	55	50.60	25	32	02.0	15.28	8.13	.575 3444	1 26 29
30	5	54	26.90	25	34	47.9	15.33	8.16	.573 5108	1 21 10
DEC. 1	5	53	00.40	25	37	28.6	15.38	8.18	.571 8566	1 15 48
2	5	51	31.25	+25	40	03.6	15.42	8.20	0.570 3858	1 10 23
3	5	49	59.64	25	42	32.6	15.45	8.22	.569 1020	1 04 56
4	5	48	25.76	25	44	54.9	15.48	8.24	.568 0085	0 59 27
5	5	46	49.81	25	47	10.1	15.51	8.25	.567 1084	0 53 56
6	5	45	11.98	25	49	17.9	15.53	8.26	.566 4042	0 48 23
7	5	43	32.50	+25	51	17.9	15.54	8.27	0.565 8985	0 42 48
8	5	41	51.58	25	53	09.8	15.55	8.27	.565 5933	0 37 12
9	5	40	09.45	25	54	53.2	15.55	8.28	.565 4903	0 31 34
10	5	38	26.33	25	56	28.0	15.55	8.27	.565 5912	0 25 56
11	5	36	42.46	25	57	54.0	15.54	8.27	.565 8971	0 20 17
12	5	34	58.06	+25	59	11.0	15.53	8.26	0.566 4092	0 14 37
13	5	33	13.36	26	00	19.1	15.51	8.25	.567 1284	0 08 57
14	5	31	28.61	26	01	18.1	15.48	8.24	.568 0550	0 03 17
15	5	29	44.01	26	02	08.1	15.45	8.22	.569 1894	23 51 58
16	5	27	59.81	26	02	49.1	15.41	8.20	.570 5316	23 46 19
17	5	26	16.22	+26	03	21.5	15.37	8.18	0.572 0815	23 40 41
18	5	24	33.46	26	03	45.2	15.32	8.16	.573 8387	23 35 04
19	5	22	51.73	26	04	00.6	15.27	8.13	.575 8027	23 29 28
20	5	21	11.24	26	04	08.0	15.22	8.10	.577 9726	23 23 54
21	5	19	32.18	26	04	07.5	15.15	8.06	.580 3477	23 18 21
22	5	17	54.76	+26	03	59.5	15.09	8.03	0.582 9270	23 12 50
23	5	16	19.14	26	03	44.5	15.01	7.99	.585 7094	23 07 21
24	5	14	45.51	26	03	22.8	14.94	7.95	.588 6937	23 01 54
25	5	13	14.05	26	02	54.8	14.86	7.91	.591 8784	22 56 30
26	5	11	44.93	26	02	21.0	14.77	7.86	.595 2621	22 51 08
27	5	10	18.30	+26	01	41.7	14.68	7.82	0.598 8427	22 45 48
28	5	08	54.32	26	00	57.6	14.59	7.77	.602 6184	22 40 32
29	5	07	33.13	26	00	09.1	14.50	7.72	.606 5868	22 35 18
30	5	06	14.87	25	59	16.8	14.40	7.66	.610 7456	22 30 07
31	5	04	59.66	25	58	21.0	14.30	7.61	.615 0921	22 24 59

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	O	'	"	"	"	AU		H	M	S
JAN. 1	5	03	47.62	+25	57	22.5	14.19	7.55	0.619	6231	22	19	55
2	5	02	38.84	25	56	21.6	14.09	7.50	.624	3357	22	14	54
3	5	01	33.42	25	55	19.0	13.98	7.44	.629	2261	22	09	56
4	5	00	31.43	25	54	15.0	13.86	7.38	.634	2913	22	05	01
5	4	59	32.94	25	53	10.2	13.75	7.32	.639	5273	22	00	11
6	4	58	38.01	+25	52	05.0	13.64	7.26	0.644	9303	21	55	23
7	4	57	46.68	25	50	59.9	13.52	7.19	.650	4965	21	50	40
8	4	56	58.98	25	49	55.2	13.40	7.13	.656	2222	21	46	00
9	4	56	14.94	25	48	51.5	13.28	7.07	.662	1034	21	41	23
10	4	55	34.57	25	47	49.0	13.16	7.00	.668	1362	21	36	51
11	4	54	57.88	+25	46	48.1	13.04	6.94	0.674	3168	21	32	22
12	4	54	24.86	25	45	49.1	12.92	6.88	.680	6413	21	27	56
13	4	53	55.51	25	44	52.3	12.80	6.81	.687	1061	21	23	34
14	4	53	29.81	25	43	58.0	12.68	6.75	.693	7072	21	19	16
15	4	53	07.74	25	43	06.4	12.55	6.68	.700	4411	21	15	01
16	4	52	49.26	+25	42	17.7	12.43	6.62	0.707	3040	21	10	50
17	4	52	34.34	25	41	32.1	12.31	6.55	.714	2927	21	06	42
18	4	52	22.94	25	40	49.6	12.19	6.49	.721	4040	21	02	38
19	4	52	15.03	25	40	10.5	12.07	6.42	.728	6344	20	58	37
20	4	52	10.57	25	39	34.7	11.95	6.36	.735	9811	20	54	40
21	4	52	09.50	+25	39	02.4	11.83	6.30	0.743	4410	20	50	46
22	4	52	11.80	25	38	33.6	11.71	6.23	.751	0113	20	46	55
23	4	52	17.42	25	38	08.2	11.59	6.17	.758	6891	20	43	08
24	4	52	26.33	25	37	46.5	11.47	6.11	.766	4715	20	39	23
25	4	52	38.47	25	37	28.2	11.36	6.04	.774	3556	20	35	42
26	4	52	53.82	+25	37	13.5	11.24	5.98	0.782	3385	20	32	04
27	4	53	12.31	25	37	02.2	11.13	5.92	.790	4173	20	28	30
28	4	53	33.92	25	36	54.4	11.01	5.86	.798	5888	20	24	58
29	4	53	58.58	25	36	50.0	10.90	5.80	.806	8503	20	21	29
30	4	54	26.24	25	36	48.8	10.79	5.74	.815	1984	20	18	03
31	4	54	56.87	+25	36	50.8	10.68	5.68	0.823	6302	20	14	40
FEB. 1	4	55	30.40	25	36	55.9	10.57	5.62	.832	1427	20	11	20
2	4	56	06.79	25	37	04.0	10.46	5.57	.840	7326	20	08	03
3	4	56	45.97	25	37	14.9	10.35	5.51	.849	3970	20	04	48
4	4	57	27.90	25	37	28.5	10.25	5.45	.858	1332	20	01	36
5	4	58	12.52	+25	37	44.7	10.14	5.40	0.866	9380	19	58	27
6	4	58	59.76	25	38	03.2	10.04	5.34	.875	8089	19	55	20
7	4	59	49.58	25	38	24.0	9.94	5.29	.884	7431	19	52	16
8	5	00	41.92	25	38	46.8	9.84	5.24	.893	7377	19	49	14
9	5	01	36.72	25	39	11.6	9.74	5.18	.902	7905	19	46	14
10	5	02	33.92	+25	39	38.1	9.64	5.13	0.911	8989	19	43	17
11	5	03	33.47	25	40	06.1	9.55	5.08	.921	0605	19	40	23
12	5	04	35.30	25	40	35.5	9.45	5.03	.930	2731	19	37	30
13	5	05	39.36	25	41	06.1	9.36	4.98	.939	5345	19	34	40
14	5	06	45.59	25	41	37.6	9.27	4.93	.948	8428	19	31	51
15	5	07	53.94	+25	42	09.9	9.18	4.88	0.958	1960	19	29	05
16	5	09	04.35	25	42	42.8	9.09	4.84	.967	5926	19	26	21
17	5	10	16.77	25	43	15.9	9.00	4.79	.977	0309	19	23	39
18	5	11	31.16	25	43	49.2	8.91	4.74	.986	5094	19	20	58
19	5	12	47.48	25	44	22.4	8.83	4.70	0.996	0267	19	18	20
20	5	14	05.68	+25	44	55.4	8.75	4.65	1.005	5812	19	15	43
21	5	15	25.73	25	45	27.9	8.66	4.61	.015	1718	19	13	09
22	5	16	47.58	25	45	59.7	8.58	4.57	.024	7967	19	10	36
23	5	18	11.21	25	46	30.6	8.50	4.52	.034	4544	19	08	04
24	5	19	36.56	25	47	00.5	8.42	4.48	.044	1432	19	05	35
25	5	21	03.61	+25	47	29.2	8.34	4.44	1.053	8617	19	03	07
26	5	22	32.32	25	47	56.4	8.27	4.40	.063	6078	19	00	41
27	5	24	02.65	25	48	22.1	8.19	4.36	.073	3801	18	58	16
28	5	25	34.56	25	48	45.8	8.12	4.32	.083	1766	18	55	53
29	5	27	08.03	25	49	07.6	8.05	4.28	.092	9956	18	53	31
MAR. 1	5	28	43.01	+25	49	27.2	7.97	4.24	1.102	8355	18	51	11

DATE	APPT. R.A.	APPT. DEC.	H.P.	S.D.	T.D.	E.T.
	H M S	O ° ' "	' "	' "	AU	H M S
MAR. 2	5 30 19.48	+25 49 44.4	7.90	4.21	1.112 6944	18 48 52
3	5 31 57.38	25 49 59.0	7.83	4.17	.122 5705	18 46 35
4	5 33 36.70	25 50 11.0	7.77	4.13	.132 4622	18 44 19
5	5 35 17.40	25 50 20.0	7.70	4.10	.142 3679	18 42 04
6	5 36 59.43	25 50 26.0	7.63	4.06	.152 2862	18 39 51
7	5 38 42.77	+25 50 28.7	7.57	4.03	1.162 2153	18 37 39
8	5 40 27.38	25 50 28.1	7.50	3.99	.172 1539	18 35 28
9	5 42 13.23	25 50 23.9	7.44	3.96	.182 1004	18 33 19
10	5 44 00.28	25 50 16.0	7.38	3.93	.192 0535	18 31 10
11	5 45 48.49	25 50 04.3	7.32	3.89	.202 0120	18 29 03
12	5 47 37.83	+25 49 48.7	7.26	3.86	1.211 9747	18 26 57
13	5 49 28.27	25 49 28.8	7.20	3.83	.221 9404	18 24 52
14	5 51 19.76	25 49 04.6	7.14	3.80	.231 9084	18 22 47
15	5 53 12.29	25 48 36.0	7.08	3.77	.241 8776	18 20 44
16	5 55 05.82	25 48 02.8	7.02	3.74	.251 8474	18 18 42
17	5 57 00.33	+25 47 24.8	6.97	3.71	1.261 8172	18 16 41
18	5 58 55.79	25 46 41.9	6.91	3.68	.271 7862	18 14 41
19	6 00 52.18	25 45 54.0	6.86	3.65	.281 7541	18 12 42
20	6 02 49.48	25 45 01.0	6.81	3.62	.291 7198	18 10 43
21	6 04 47.67	25 44 02.6	6.76	3.60	.301 6828	18 08 46
22	6 06 46.72	+25 42 58.9	6.70	3.57	1.311 6423	18 06 49
23	6 08 46.62	25 41 49.6	6.65	3.54	.321 5974	18 04 53
24	6 10 47.34	25 40 34.7	6.60	3.51	.331 5470	18 02 58
25	6 12 48.87	25 39 14.1	6.56	3.49	.341 4901	18 01 04
26	6 14 51.19	25 37 47.6	6.51	3.46	.351 4257	17 59 10
27	6 16 54.26	+25 36 15.1	6.46	3.44	1.361 3526	17 57 17
28	6 18 58.09	25 34 36.5	6.41	3.41	.371 2697	17 55 25
29	6 21 02.64	25 32 51.7	6.37	3.39	.381 1760	17 53 34
30	6 23 07.89	25 31 00.7	6.32	3.36	.391 0702	17 51 43
31	6 25 13.84	25 29 03.2	6.28	3.34	.400 9513	17 49 54
APR. 1	6 27 20.44	+25 26 59.3	6.23	3.32	1.410 8181	17 48 04
2	6 29 27.70	25 24 48.9	6.19	3.29	.420 6696	17 46 15
3	6 31 35.58	25 22 31.8	6.15	3.27	.430 5049	17 44 27
4	6 33 44.07	25 20 08.1	6.11	3.25	.440 3227	17 42 40
5	6 35 53.14	25 17 37.6	6.06	3.23	.450 1223	17 40 53
6	6 38 02.78	+25 15 00.3	6.02	3.21	1.459 9024	17 39 07
7	6 40 12.95	25 12 16.1	5.98	3.18	.469 6625	17 37 21
8	6 42 23.64	25 09 24.9	5.94	3.16	.479 4015	17 35 35
9	6 44 34.84	25 06 26.8	5.91	3.14	.489 1189	17 33 50
10	6 46 46.50	25 03 21.6	5.87	3.12	.498 8137	17 32 06
11	6 48 58.63	+25 00 09.2	5.83	3.10	1.508 4857	17 30 22
12	6 51 11.19	24 56 49.7	5.79	3.08	.518 1343	17 28 39
13	6 53 24.17	24 53 23.0	5.76	3.06	.527 7591	17 26 55
14	6 55 37.55	24 49 48.9	5.72	3.04	.537 3600	17 25 13
15	6 57 51.32	24 46 07.5	5.68	3.03	.546 9368	17 23 30
16	7 00 05.47	+24 42 18.6	5.65	3.01	1.556 4890	17 21 48
17	7 02 19.99	24 38 22.4	5.62	2.99	.566 0166	17 20 07
18	7 04 34.86	24 34 18.6	5.58	2.97	.575 5192	17 18 25
19	7 06 50.06	24 30 07.4	5.55	2.95	.584 9964	17 16 44
20	7 09 05.60	24 25 48.6	5.52	2.94	.594 4477	17 15 04
21	7 11 21.45	+24 21 22.1	5.48	2.92	1.603 8723	17 13 23
22	7 13 37.61	24 16 48.1	5.45	2.90	.613 2698	17 11 43
23	7 15 54.05	24 12 06.4	5.42	2.88	.622 6393	17 10 03
24	7 18 10.79	24 07 16.9	5.39	2.87	.631 9802	17 08 24
25	7 20 27.79	24 02 19.7	5.36	2.85	.641 2916	17 06 45
26	7 22 45.06	+23 57 14.8	5.33	2.84	1.650 5727	17 05 06
27	7 25 02.58	23 52 02.1	5.30	2.82	.659 8228	17 03 27
28	7 27 20.34	23 46 41.6	5.27	2.80	.669 0411	17 01 48
29	7 29 38.33	23 41 13.3	5.24	2.79	.678 2267	17 00 10
30	7 31 56.54	23 35 37.2	5.21	2.77	.687 3790	16 58 32
MAY 1	7 34 14.96	+23 29 53.3	5.18	2.76	1.696 4970	16 56 54

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"			AU		H	M	S
MAY	2	7	36	33.57	+23	24	01.6	5.16	2.74	1.705	5802	16	55	16
	3	7	38	52.36	23	18	02.2	5.13	2.73	.714	6277	16	53	39
	4	7	41	11.32	23	11	54.9	5.10	2.72	.723	6389	16	52	01
	5	7	43	30.44	23	05	39.9	5.08	2.70	.732	6133	16	50	24
	6	7	45	49.70	22	59	17.2	5.05	2.69	.741	5499	16	48	47
	7	7	48	09.08	+22	52	46.7	5.02	2.67	1.750	4487	16	47	10
	8	7	50	28.58	22	46	08.4	5.00	2.66	.759	3088	16	45	33
	9	7	52	48.19	22	39	22.5	4.97	2.65	.768	1302	16	43	56
	10	7	55	07.89	22	32	28.8	4.95	2.63	.776	9127	16	42	20
	11	7	57	27.67	22	25	27.4	4.92	2.62	.785	6558	16	40	43
	12	7	59	47.54	+22	18	18.3	4.90	2.61	1.794	3600	16	39	07
	13	8	02	07.47	22	11	01.6	4.88	2.60	.803	0247	16	37	30
	14	8	04	27.46	22	03	37.2	4.85	2.58	.811	6502	16	35	54
	15	8	06	47.51	21	56	05.1	4.83	2.57	.820	2366	16	34	17
	16	8	09	27.60	21	48	25.5	4.81	2.56	.828	7835	16	32	41
	17	8	11	27.74	+21	40	38.2	4.79	2.55	1.837	2911	16	31	05
	18	8	13	47.92	21	32	43.4	4.76	2.54	.845	7589	16	29	29
	19	8	16	08.13	21	24	41.0	4.74	2.52	.854	1867	16	27	52
	20	8	18	28.36	21	16	31.0	4.72	2.51	.862	5739	16	26	16
	21	8	20	48.62	21	08	13.5	4.70	2.50	.870	9203	16	24	40
	22	8	23	08.90	+20	59	48.5	4.68	2.49	1.879	2251	16	23	04
	23	8	25	29.20	20	51	16.1	4.66	2.48	.887	4880	16	21	28
	24	8	27	49.51	20	42	36.1	4.64	2.47	.895	7081	16	19	52
	25	8	30	09.83	20	33	48.7	4.62	2.46	.903	8852	16	18	15
	26	8	32	30.16	20	24	53.9	4.60	2.45	.912	0185	16	16	39
	27	8	34	50.49	+20	15	51.8	4.58	2.44	1.920	1075	16	15	03
	28	8	37	10.82	20	06	42.4	4.56	2.43	.928	1515	16	13	27
	29	8	39	31.13	19	57	25.7	4.54	2.42	.936	1500	16	11	51
	30	8	41	51.44	19	48	01.8	4.52	2.41	.944	1025	16	10	15
	31	8	44	11.72	19	38	30.7	4.51	2.40	.952	0081	16	08	39
JUNE	1	8	46	31.98	+19	28	52.6	4.49	2.39	1.959	8666	16	07	02
	2	8	48	52.21	19	19	07.4	4.47	2.38	.967	6774	16	05	26
	3	8	51	12.39	19	09	15.2	4.45	2.37	.975	4400	16	03	50
	4	8	53	32.54	18	59	16.1	4.43	2.36	.983	1541	16	02	13
	5	8	55	52.63	18	49	10.1	4.42	2.35	.990	8194	16	00	37
	6	8	58	12.66	+18	38	57.3	4.40	2.34	1.998	4357	15	59	01
	7	9	00	32.64	18	28	37.7	4.38	2.33	2.006	0028	15	57	24
	8	9	02	52.55	18	18	11.3	4.37	2.32	.013	5210	15	55	48
	9	9	05	12.40	18	07	38.3	4.35	2.32	.020	9900	15	54	11
	10	9	07	32.18	17	56	58.7	4.34	2.31	.028	4102	15	52	34
	11	9	09	51.90	+17	46	12.5	4.32	2.30	2.035	7816	15	50	57
	12	9	12	11.54	17	35	19.8	4.30	2.29	.043	1043	15	49	21
	13	9	14	31.12	17	24	20.6	4.29	2.28	.050	3785	15	47	44
	14	9	16	50.62	17	13	15.0	4.27	2.27	.057	6043	15	46	07
	15	9	19	10.04	17	02	03.1	4.26	2.27	.064	7814	15	44	30
	16	9	21	29.39	+16	50	44.8	4.24	2.26	2.071	9099	15	42	52
	17	9	23	48.68	16	39	20.3	4.23	2.25	.078	9895	15	41	15
	18	9	26	07.89	16	27	49.6	4.22	2.24	.086	0199	15	39	38
	19	9	28	27.03	16	16	12.7	4.20	2.24	.093	0008	15	38	01
	20	9	30	46.11	16	04	29.6	4.19	2.23	.099	9317	15	36	23
	21	9	33	05.13	+15	52	40.5	4.17	2.22	2.106	8122	15	34	46
	22	9	35	24.08	15	40	45.4	4.16	2.21	.113	6421	15	33	08
	23	9	37	42.97	15	28	44.3	4.15	2.21	.120	4206	15	31	31
	24	9	40	01.80	15	16	37.3	4.13	2.20	.127	1478	15	29	53
	25	9	42	20.57	15	04	24.5	4.12	2.19	.133	8227	15	28	15
	26	9	44	39.29	+14	52	05.9	4.11	2.19	2.140	4452	15	26	37
	27	9	46	57.94	14	39	41.7	4.10	2.18	.147	0146	15	25	00
	28	9	49	16.53	14	27	11.8	4.08	2.17	.153	5306	15	23	22
	29	9	51	35.07	14	14	36.4	4.07	2.17	.159	9926	15	21	44
	30	9	53	53.54	14	01	55.6	4.06	2.16	.166	4002	15	20	06
JULY	1	9	56	11.94	+13	49	09.4	4.05	2.15	2.172	7531	15	18	28

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
	H	M	S	°	'	"	°	'	°	H M S
JULY	2	9 58	30.28	+13 36	17.9		4.04	2.15	2.179 0511	15 16 50
	3	10 00	48.56	13 23	21.2		4.02	2.14	.185 2938	15 15 11
	4	10 03	06.77	13 10	19.3		4.01	2.14	.191 4815	15 13 33
	5	10 05	24.91	12 57	12.3		4.00	2.13	.197 6139	15 11 55
	6	10 07	43.00	12 44	00.3		3.99	2.12	.203 6911	15 10 16
	7	10 10	01.02	+12 30	43.3		3.98	2.12	2.209 7134	15 08 38
	8	10 12	18.99	12 17	21.5		3.97	2.11	.215 6808	15 06 59
	9	10 14	36.90	12 03	54.9		3.96	2.11	.221 5936	15 05 21
	10	10 16	54.75	11 50	23.5		3.95	2.10	.227 4521	15 03 42
	11	10 19	12.55	11 36	47.5		3.94	2.10	.233 2565	15 02 03
	12	10 21	30.30	+11 23	06.9		3.93	2.09	2.239 0069	15 00 25
	13	10 23	48.00	11 09	21.8		3.92	2.08	.244 7034	14 58 46
	14	10 26	05.66	10 55	32.3		3.91	2.08	.250 3462	14 57 07
	15	10 28	23.28	10 41	38.3		3.90	2.07	.255 9350	14 55 28
	16	10 30	40.87	10 27	39.9		3.89	2.07	.261 4698	14 53 49
	17	10 32	58.43	+10 13	37.3		3.88	2.06	2.266 9505	14 52 11
	18	10 35	15.97	9 59	30.5		3.87	2.06	.272 3767	14 50 32
	19	10 37	33.49	9 45	19.5		3.86	2.05	.277 7481	14 48 53
	20	10 39	51.01	9 31	04.4		3.85	2.05	.283 0647	14 47 14
	21	10 42	08.51	9 16	45.2		3.84	2.05	.288 3259	14 45 35
	22	10 44	26.02	+ 9 02	22.2		3.83	2.04	2.293 5316	14 43 56
	23	10 46	43.53	8 47	55.2		3.83	2.04	.298 6814	14 42 17
	24	10 49	01.05	8 33	24.5		3.82	2.03	.303 7749	14 40 38
	25	10 51	18.58	8 18	50.0		3.81	2.03	.308 8117	14 38 59
	26	10 53	36.12	8 04	12.0		3.80	2.02	.313 7914	14 37 20
AUG.	27	10 55	53.67	+ 7 49	30.4		3.79	2.02	2.318 7138	14 35 41
	28	10 58	11.25	7 34	45.4		3.78	2.01	.323 5782	14 34 02
	29	11 00	28.84	7 19	57.0		3.78	2.01	.328 3846	14 32 24
	30	11 02	46.46	7 05	05.3		3.77	2.01	.333 1326	14 30 45
	31	11 05	04.10	6 50	10.4		3.76	2.00	.337 8222	14 29 06
	1	11 07	21.77	+ 6 35	12.5		3.75	2.00	2.342 4535	14 27 27
	2	11 09	39.47	6 20	11.5		3.75	1.99	.347 0262	14 25 49
	3	11 11	57.22	6 05	07.5		3.74	1.99	.351 5408	14 24 10
	4	11 14	15.00	5 50	00.7		3.73	1.99	.355 9973	14 22 31
	5	11 16	32.83	5 34	51.2		3.73	1.98	.360 3962	14 20 53
	6	11 18	50.71	+ 5 19	38.9		3.72	1.98	2.364 7376	14 19 14
	7	11 21	08.64	5 04	24.1		3.71	1.98	.369 0220	14 17 36
	8	11 23	26.63	4 49	06.7		3.71	1.97	.373 2496	14 15 57
	9	11 25	44.68	4 33	46.9		3.70	1.97	.377 4206	14 14 19
	10	11 28	02.79	4 18	24.7		3.69	1.97	.381 5353	14 12 41
	11	11 30	20.99	+ 4 03	00.3		3.69	1.96	2.385 5939	14 11 02
	12	11 32	39.26	3 47	33.6		3.68	1.96	.389 5964	14 09 24
	13	11 34	57.63	3 32	04.8		3.67	1.96	.393 5429	14 07 46
	14	11 37	16.09	3 16	33.9		3.67	1.95	.397 4333	14 06 08
	15	11 39	34.66	3 01	01.0		3.66	1.95	.401 2675	14 04 31
	16	11 41	53.35	+ 2 45	26.2		3.66	1.95	2.405 0455	14 02 53
	17	11 44	12.15	2 29	49.5		3.65	1.94	.408 7669	14 01 15
	18	11 46	31.08	2 14	11.1		3.65	1.94	.412 4318	13 59 38
	19	11 48	50.15	1 58	31.0		3.64	1.94	.416 0399	13 58 01
	20	11 51	09.36	1 42	49.3		3.63	1.93	.419 5909	13 56 23
	21	11 53	28.71	+ 1 27	06.1		3.63	1.93	2.423 0848	13 54 46
	22	11 55	48.22	1 11	21.5		3.62	1.93	.426 5210	13 53 10
	23	11 58	07.88	0 55	35.5		3.62	1.93	.429 8994	13 51 33
	24	12 00	27.71	0 39	48.4		3.61	1.92	.433 2197	13 49 56
	25	12 02	47.70	0 24	00.2		3.61	1.92	.436 4814	13 48 20
	26	12 05	07.86	+ 0 08	11.0		3.60	1.92	2.439 6845	13 46 44
	27	12 07	28.21	- 0 07	39.2		3.60	1.92	.442 8284	13 45 08
	28	12 09	48.73	0 23	30.1		3.60	1.91	.445 9135	13 43 32
	29	12 12	09.44	0 39	21.8		3.59	1.91	.448 9395	13 41 56
	30	12 14	30.34	0 55	14.1		3.59	1.91	.451 9068	13 40 21
	31	12 16	51.44	- 1 11	06.9		3.58	1.91	2.454 8153	13 38 46

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	''			AU		H	M	S
SEPT.	1	12	19	12.74	-	1 27 00.2	3.58	1.90	2.457	6656	13	37	11
	2	12	21	34.25		1 42 53.7	3.57	1.90	.460	4579	13	35	36
	3	12	23	55.97		1 58 47.5	3.57	1.90	.463	1925	13	34	01
	4	12	26	17.91		2 14 41.3	3.57	1.90	.465	8701	13	32	27
	5	12	28	40.07		2 30 35.2	3.56	1.90	.468	4908	13	30	53
	6	12	31	02.46	-	2 46 28.9	3.56	1.89	2.471	0552	13	29	19
	7	12	33	25.09		3 02 22.5	3.56	1.89	.473	5634	13	27	45
	8	12	35	47.96		3 18 15.8	3.55	1.89	.476	0158	13	26	12
	9	12	38	11.09		3 34 08.7	3.55	1.89	.478	4127	13	24	39
	10	12	40	34.48		3 50 01.2	3.54	1.89	.480	7541	13	23	06
	11	12	42	58.14	-	4 05 53.1	3.54	1.88	2.483	0402	13	21	33
	12	12	45	22.08		4 21 44.3	3.54	1.88	.485	2710	13	20	01
	13	12	47	46.31		4 37 34.8	3.54	1.88	.487	4466	13	18	29
	14	12	50	10.83		4 53 24.5	3.53	1.88	.489	5669	13	16	57
	15	12	52	35.66		5 09 13.1	3.53	1.88	.491	6319	13	15	25
	16	12	55	00.81	-	5 25 00.8	3.53	1.88	2.493	6417	13	13	54
	17	12	57	26.27		5 40 47.3	3.52	1.88	.495	5960	13	12	23
	18	12	59	52.06		5 56 32.5	3.52	1.87	.497	4947	13	10	53
	19	13	02	18.18		6 12 16.3	3.52	1.87	.499	3377	13	09	23
	20	13	04	44.64		6 27 58.7	3.52	1.87	.501	1247	13	07	53
	21	13	07	11.45	-	6 43 39.3	3.51	1.87	2.502	8555	13	06	23
	22	13	09	38.61		6 59 18.3	3.51	1.87	.504	5300	13	04	54
	23	13	12	06.12		7 14 55.4	3.51	1.87	.506	1479	13	03	26
	24	13	14	34.00		7 30 30.5	3.51	1.87	.507	7091	13	01	57
	25	13	17	02.25		7 46 03.5	3.50	1.87	.509	2135	13	00	29
	26	13	19	30.87	-	8 01 34.2	3.50	1.86	2.510	6612	12	59	02
	27	13	21	59.88		8 17 02.6	3.50	1.86	.512	0522	12	57	34
	28	13	24	29.27		8 32 28.6	3.50	1.86	.513	3870	12	56	07
	29	13	26	59.05		8 47 51.9	3.50	1.86	.514	6659	12	54	41
	30	13	29	29.23		9 03 12.5	3.50	1.86	.515	8893	12	53	15
OCT.	1	13	31	59.80	-	9 18 30.3	3.49	1.86	2.517	0577	12	51	49
	2	13	34	30.77		9 33 45.0	3.49	1.86	.518	1717	12	50	24
	3	13	37	02.15		9 48 56.6	3.49	1.86	.519	2317	12	48	59
	4	13	39	33.95		10 04 05.0	3.49	1.86	.520	2382	12	47	35
	5	13	42	06.17		10 19 10.0	3.49	1.86	.521	1915	12	46	11
	6	13	44	38.83	-10	34 11.4	3.49	1.86	2.522	0923	12	44	47
	7	13	47	11.92		10 49 09.3	3.49	1.85	.522	9406	12	43	24
	8	13	49	45.46		11 04 03.4	3.48	1.85	.523	7369	12	42	01
	9	13	52	19.46		11 18 53.6	3.48	1.85	.524	4817	12	40	39
	10	13	54	53.92		11 33 39.9	3.48	1.85	.525	1749	12	39	17
	11	13	57	28.85	-11	48 22.0	3.48	1.85	2.525	8166	12	37	56
	12	14	00	04.27		12 02 59.9	3.48	1.85	.526	4073	12	36	35
	13	14	02	40.17		12 17 33.5	3.48	1.85	.526	9467	12	35	15
	14	14	05	16.56		12 32 02.5	3.48	1.85	.527	4353	12	33	55
	15	14	07	53.45		12 46 26.8	3.48	1.85	.527	8728	12	32	36
	16	14	10	30.84	-13	00 46.4	3.48	1.85	2.528	2592	12	31	17
	17	14	13	08.74		13 15 01.0	3.48	1.85	.528	5948	12	29	59
	18	14	15	47.16		13 29 10.6	3.48	1.85	.528	8793	12	28	41
	19	14	18	26.10		13 43 14.9	3.48	1.85	.529	1127	12	27	23
	20	14	21	05.57		13 57 13.9	3.48	1.85	.529	2947	12	26	07
	21	14	23	45.57	-14	11 07.3	3.48	1.85	2.529	4254	12	24	51
	22	14	26	26.10		14 24 55.1	3.48	1.85	.529	5044	12	23	35
	23	14	29	07.17		14 38 37.0	3.48	1.85	.529	5322	12	22	20
	24	14	31	48.79		14 52 13.0	3.48	1.85	.529	5083	12	21	05
	25	14	34	30.95		15 05 42.9	3.48	1.85	.529	4333	12	19	51
	26	14	37	13.67	-15	19 06.5	3.48	1.85	2.529	3075	12	18	38
	27	14	39	56.93		15 32 23.7	3.48	1.85	.529	1311	12	17	25
	28	14	42	40.74		15 45 34.2	3.48	1.85	.528	9048	12	16	12
	29	14	45	25.10		15 58 38.1	3.48	1.85	.528	6291	12	15	00
	30	14	48	10.02		16 11 35.0	3.48	1.85	.528	3047	12	13	49
	31	14	50	55.49	-16	24 24.9	3.48	1.85	2.527	9321	12	12	38

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	O	'	"			"	"	AU	H	M
NOV.	1	14	53	41.52	-16	37	07.5	3.48	1.85	2.527	5119	12	11	28
	2	14	56	28.12	16	49	42.8	3.48	1.85	.527	0448	12	10	19
	3	14	59	15.29	17	02	10.5	3.48	1.85	.526	5311	12	09	10
	4	15	02	03.03	17	14	30.5	3.48	1.85	.525	9714	12	08	01
	5	15	04	51.35	17	26	42.7	3.48	1.85	.525	3663	12	06	53
	6	15	07	40.25	-17	38	46.9	3.48	1.85	2.524	7160	12	05	46
	7	15	10	29.73	17	50	43.0	3.48	1.85	.524	0209	12	04	39
	8	15	13	19.81	18	02	30.8	3.49	1.85	.523	2814	12	03	33
	9	15	16	10.48	18	14	10.2	3.49	1.86	.522	4979	12	02	27
	10	15	19	01.74	18	25	41.0	3.49	1.86	.521	6705	12	01	23
	11	15	21	53.60	-18	37	03.0	3.49	1.86	2.520	7996	12	00	18
	12	15	24	46.05	18	48	16.1	3.49	1.86	.519	8852	11	59	14
	13	15	27	39.10	18	59	20.2	3.49	1.86	.518	9275	11	58	11
	14	15	30	32.76	19	10	15.0	3.49	1.86	.517	9268	11	57	09
	15	15	33	27.01	19	21	00.4	3.49	1.86	.516	8829	11	56	07
	16	15	36	21.86	-19	31	36.2	3.50	1.86	2.515	7960	11	55	05
	17	15	39	17.31	19	42	02.3	3.50	1.86	.514	6660	11	54	05
	18	15	42	13.37	19	52	18.5	3.50	1.86	.513	4930	11	53	04
	19	15	45	10.02	20	02	24.7	3.50	1.86	.512	2768	11	52	05
	20	15	48	07.27	20	12	20.7	3.50	1.86	.511	0176	11	51	06
	21	15	51	05.12	-20	22	06.3	3.50	1.86	2.509	7155	11	50	08
	22	15	54	03.55	20	31	41.4	3.51	1.87	.508	3707	11	49	10
	23	15	57	02.58	20	41	05.9	3.51	1.87	.506	9835	11	48	13
	24	16	00	02.18	20	50	19.5	3.51	1.87	.505	5544	11	47	16
	25	16	03	02.35	20	59	22.1	3.51	1.87	.504	0839	11	46	20
	26	16	06	03.08	-21	08	13.6	3.51	1.87	2.502	5726	11	45	24
	27	16	09	04.38	21	16	53.7	3.52	1.87	.501	0214	11	44	29
	28	16	12	06.22	21	25	22.4	3.52	1.87	.499	4308	11	43	35
	29	16	15	08.62	21	33	39.4	3.52	1.87	.497	8017	11	42	41
	30	16	18	11.57	21	41	44.6	3.52	1.87	.496	1345	11	41	48
DEC.	1	16	21	15.06	-21	49	37.9	3.53	1.88	2.494	4301	11	40	55
	2	16	24	19.10	21	57	19.1	3.53	1.88	.492	6889	11	40	03
	3	16	27	23.67	22	04	48.1	3.53	1.88	.490	9116	11	39	11
	4	16	30	28.77	22	12	04.7	3.53	1.88	.489	0988	11	38	20
	5	16	33	34.39	22	19	08.8	3.54	1.88	.487	2507	11	37	29
	6	16	36	40.54	-22	26	00.3	3.54	1.88	2.485	3683	11	36	39
	7	16	39	47.20	22	32	39.0	3.54	1.88	.483	4516	11	35	50
	8	16	42	54.37	22	39	04.8	3.54	1.89	.481	5013	11	35	00
	9	16	46	02.05	22	45	17.6	3.55	1.89	.479	5176	11	34	12
	10	16	49	10.21	22	51	17.1	3.55	1.89	.477	5010	11	33	24
	11	16	52	18.86	-22	57	03.4	3.55	1.89	2.475	4515	11	32	36
	12	16	55	27.99	23	02	36.2	3.56	1.89	.473	3695	11	31	49
	13	16	58	37.59	23	07	55.5	3.56	1.89	.471	2552	11	31	02
	14	17	01	47.65	23	13	01.0	3.56	1.90	.469	1085	11	30	16
	15	17	04	58.16	23	17	52.7	3.56	1.90	.466	9297	11	29	30
	16	17	08	09.12	-23	22	30.5	3.57	1.90	2.464	7188	11	28	45
	17	17	11	20.51	23	26	54.2	3.57	1.90	.462	4759	11	28	00
	18	17	14	32.32	23	31	03.7	3.57	1.90	.460	2011	11	27	15
	19	17	17	44.55	23	34	59.0	3.58	1.90	.457	8945	11	26	31
	20	17	20	57.17	23	38	39.9	3.58	1.91	.455	5563	11	25	47
	21	17	24	10.18	-23	42	06.4	3.58	1.91	2.453	1869	11	25	04
	22	17	27	23.55	23	45	18.3	3.59	1.91	.450	7867	11	24	21
	23	17	30	37.27	23	48	15.6	3.59	1.91	.448	3561	11	23	38
	24	17	33	51.33	23	50	58.1	3.60	1.91	.445	8960	11	22	56
	25	17	37	05.70	23	53	25.8	3.60	1.92	.443	4068	11	22	14
	26	17	40	20.38	-23	55	38.6	3.60	1.92	2.440	8896	11	21	32
	27	17	43	35.35	23	57	36.3	3.61	1.92	.438	3447	11	20	51
	28	17	46	50.61	23	59	19.0	3.61	1.92	.435	7732	11	20	10
	29	17	50	06.13	24	00	46.4	3.61	1.92	.433	1756	11	19	29
	30	17	53	21.91	24	01	58.7	3.62	1.93	.430	5527	11	18	48
	31	17	56	37.93	-24	02	55.7	3.62	1.93	2.427	9051	11	18	08

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	''			AU		H	M	S
JAN.	1	17	59	54.19	-24	03	37.3	3.63	1.93	2.425	2334	11	17	28
	2	18	03	10.66	24	04	03.6	3.63	1.93	.422	5383	11	16	48
	3	18	06	27.33	24	04	14.4	3.63	1.93	.419	8202	11	16	08
	4	18	09	44.20	24	04	09.7	3.64	1.94	.417	0798	11	15	28
	5	18	13	01.24	24	03	49.5	3.64	1.94	.414	3174	11	14	49
	6	18	16	18.44	-24	03	13.8	3.65	1.94	2.411	5336	11	14	10
	7	18	19	35.80	24	02	22.5	3.65	1.94	.408	7290	11	13	30
	8	18	22	53.29	24	01	15.5	3.66	1.95	.405	9038	11	12	51
	9	18	26	10.90	23	59	52.9	3.66	1.95	.403	0580	11	12	13
	10	18	29	28.62	23	58	14.6	3.66	1.95	.400	1922	11	11	34
	11	18	32	46.43	-23	56	20.6	3.67	1.95	2.397	3063	11	10	55
	12	18	36	04.33	23	54	10.9	3.67	1.95	.394	4005	11	10	17
	13	18	39	22.30	23	51	45.5	3.68	1.96	.391	4751	11	09	38
	14	18	42	40.33	23	49	04.4	3.68	1.96	.388	5298	11	09	00
	15	18	45	58.39	23	46	07.6	3.69	1.96	.385	5648	11	08	21
	16	18	49	16.49	-23	42	55.1	3.69	1.96	2.382	5804	11	07	43
	17	18	52	34.59	23	39	27.0	3.70	1.97	.379	5766	11	07	04
	18	18	55	52.68	23	35	43.4	3.70	1.97	.376	5536	11	06	26
	19	18	59	10.74	23	31	44.1	3.71	1.97	.373	5120	11	05	47
	20	19	02	28.75	23	27	29.3	3.71	1.97	.370	4522	11	05	09
	21	19	05	46.71	-23	22	59.0	3.71	1.98	2.367	3744	11	04	30
	22	19	09	04.58	23	18	13.3	3.72	1.98	.364	2796	11	03	51
	23	19	12	22.36	23	13	12.1	3.72	1.98	.361	1682	11	03	13
	24	19	15	40.03	23	07	55.5	3.73	1.98	.358	0409	11	02	34
	25	19	18	57.59	23	02	23.6	3.73	1.99	.354	8984	11	01	55
	26	19	22	15.01	-22	56	36.5	3.74	1.99	2.351	7416	11	01	15
	27	19	25	32.29	22	50	34.1	3.74	1.99	.348	5710	11	00	36
	28	19	28	49.41	22	44	16.7	3.75	2.00	.345	3872	10	59	57
	29	19	32	06.36	22	37	44.1	3.75	2.00	.342	1907	10	59	17
	30	19	35	23.13	22	30	56.7	3.76	2.00	.338	9824	10	58	37
FEB.	31	19	38	39.71	-22	23	54.3	3.76	2.00	2.335	7627	10	57	57
	1	19	41	56.09	22	16	37.1	3.77	2.01	.332	5321	10	57	17
	2	19	45	12.26	22	09	05.2	3.78	2.01	.329	2913	10	56	36
	3	19	48	28.20	22	01	18.7	3.78	2.01	.326	0406	10	55	56
	4	19	51	43.91	21	53	17.6	3.79	2.01	.322	7804	10	55	15
	5	19	54	59.38	-21	45	02.2	3.79	2.02	2.319	5112	10	54	33
	6	19	58	14.60	21	36	32.3	3.80	2.02	.316	2331	10	53	52
	7	20	01	29.55	21	27	48.3	3.80	2.02	.312	9465	10	53	10
	8	20	04	44.25	21	18	50.1	3.81	2.03	.309	6513	10	52	28
	9	20	07	58.67	21	09	37.9	3.81	2.03	.306	3475	10	51	46
	10	20	11	12.82	-21	00	11.7	3.82	2.03	2.303	0354	10	51	04
	11	20	14	26.68	20	50	31.9	3.82	2.04	.299	7146	10	50	21
	12	20	17	40.25	20	40	38.3	3.83	2.04	.296	3855	10	49	38
	13	20	20	53.51	20	30	31.3	3.84	2.04	.293	0478	10	48	54
	14	20	24	06.46	20	20	11.0	3.84	2.04	.289	7017	10	48	11
	15	20	27	19.09	-20	09	37.5	3.85	2.05	2.286	3472	10	47	27
	16	20	30	31.38	19	58	50.9	3.85	2.05	.282	9846	10	46	42
	17	20	33	43.33	19	47	51.5	3.86	2.05	.279	6141	10	45	57
	18	20	36	54.93	19	36	39.3	3.86	2.06	.276	2362	10	45	12
	19	20	40	06.17	19	25	14.6	3.87	2.06	.272	8511	10	44	27
	20	20	43	17.05	-19	13	37.4	3.87	2.06	2.269	4593	10	43	41
	21	20	46	27.56	19	01	47.9	3.88	2.07	.266	0614	10	42	55
	22	20	49	37.69	18	49	46.4	3.89	2.07	.262	6579	10	42	08
	23	20	52	47.44	18	37	32.8	3.89	2.07	.259	2494	10	41	21
	24	20	55	56.82	18	25	07.5	3.90	2.07	.255	8364	10	40	34
	25	20	59	05.80	-18	12	30.6	3.90	2.08	2.252	4193	10	39	46
	26	21	02	14.40	17	59	42.2	3.91	2.08	.248	9987	10	38	58
	27	21	05	22.61	17	46	42.5	3.92	2.08	.245	5752	10	38	10
	28	21	08	30.43	17	33	31.7	3.92	2.09	.242	1490	10	37	21
MAR.	1	21	11	37.85	17	20	09.9	3.93	2.09	.238	7207	10	36	32
	2	21	14	44.87	-17	06	37.4	3.93	2.09	2.235	2908	10	35	42

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	O	I	°			AU		H	M	S
MAR.	3	21	17	51.50	-16	52	54.4	3.94	2.10	2.231	8596	10	34	52
	4	21	20	57.73	16	39	00.9	3.95	2.10	.228	4276	10	34	01
	5	21	24	03.56	16	24	57.1	3.95	2.10	.224	9949	10	33	10
	6	21	27	09.00	16	10	43.2	3.96	2.11	.221	5618	10	32	19
	7	21	30	14.04	15	56	19.5	3.96	2.11	.218	1283	10	31	28
	8	21	33	18.70	-15	41	46.0	3.97	2.11	2.214	6945	10	30	36
	9	21	36	22.98	15	27	02.9	3.98	2.12	.211	2601	10	29	43
	10	21	39	26.87	15	12	10.4	3.98	2.12	.207	8251	10	28	50
	11	21	42	30.39	14	57	08.7	3.99	2.12	.204	3894	10	27	57
	12	21	45	33.53	14	41	58.1	4.00	2.13	.200	9527	10	27	04
	13	21	48	36.28	-14	26	38.6	4.00	2.13	2.197	5148	10	26	10
	14	21	51	38.66	14	11	10.6	4.01	2.13	.194	0755	10	25	15
	15	21	54	40.66	13	55	34.2	4.01	2.14	.190	6350	10	24	21
	16	21	57	42.28	13	39	49.6	4.02	2.14	.187	1930	10	23	26
	17	22	00	43.52	13	23	57.0	4.03	2.14	.183	7496	10	22	30
	18	22	03	44.38	-13	07	56.7	4.03	2.15	2.180	3049	10	21	34
	19	22	06	44.87	12	51	48.7	4.04	2.15	.176	8590	10	20	38
	20	22	09	44.98	12	35	33.4	4.05	2.15	.173	4122	10	19	42
	21	22	12	44.72	12	19	10.9	4.05	2.16	.169	9646	10	18	45
	22	22	15	44.09	12	02	41.5	4.06	2.16	.166	5168	10	17	47
	23	22	18	43.10	-11	46	05.2	4.07	2.16	2.163	0689	10	16	50
	24	22	21	41.75	11	29	22.4	4.07	2.17	.159	6212	10	15	52
	25	22	24	40.04	11	12	33.1	4.08	2.17	.156	1741	10	14	53
	26	22	27	37.98	10	55	37.7	4.09	2.17	.152	7279	10	13	55
	27	22	30	35.57	10	38	36.3	4.09	2.18	.149	2829	10	12	56
	28	22	33	32.82	-10	21	29.1	4.10	2.18	2.145	8392	10	11	56
	29	22	36	29.73	10	04	16.3	4.10	2.18	.142	3975	10	10	56
	30	22	39	26.31	9	46	58.1	4.11	2.19	.138	9578	10	09	56
	31	22	42	22.56	9	29	34.7	4.12	2.19	.135	5202	10	08	56
APR.	1	22	45	18.49	9	12	06.2	4.12	2.20	.132	0854	10	07	55
	2	22	48	14.10	-8	54	33.0	4.13	2.20	2.128	6532	10	06	54
	3	22	51	09.41	8	36	55.1	4.14	2.20	.125	2238	10	05	53
	4	22	54	04.43	8	19	12.7	4.14	2.21	.121	7973	10	04	51
	5	22	56	59.16	8	01	26.1	4.15	2.21	.118	3732	10	03	49
	6	22	59	53.61	7	43	35.3	4.16	2.21	.114	9516	10	02	47
	7	23	02	47.80	-7	25	40.6	4.16	2.22	2.111	5320	10	01	45
	8	23	05	41.73	7	07	42.3	4.17	2.22	.108	1141	10	00	42
	9	23	08	35.40	6	49	40.3	4.18	2.22	.104	6974	9	59	39
	10	23	11	28.83	6	31	35.1	4.19	2.23	.101	2815	9	58	36
	11	23	14	22.00	6	13	26.8	4.19	2.23	.097	8661	9	57	33
	12	23	17	14.94	-5	55	15.6	4.20	2.23	2.094	4509	9	56	29
	13	23	20	07.65	5	37	01.8	4.21	2.24	.091	0354	9	55	25
	14	23	23	00.12	5	18	45.4	4.21	2.24	.087	6197	9	54	21
	15	23	25	52.37	5	00	26.7	4.22	2.25	.084	2034	9	53	17
	16	23	28	44.41	4	42	06.0	4.23	2.25	.080	7864	9	52	12
	17	23	31	36.23	-4	23	43.4	4.23	2.25	2.077	3687	9	51	07
	18	23	34	27.84	4	05	19.1	4.24	2.26	.073	9503	9	50	02
	19	23	37	19.25	3	46	53.3	4.25	2.26	.070	5314	9	48	57
	20	23	40	10.48	3	28	26.1	4.25	2.26	.067	1118	9	47	52
	21	23	43	01.51	3	09	57.9	4.26	2.27	.063	6917	9	46	46
	22	23	45	52.36	-2	51	28.8	4.27	2.27	2.060	2712	9	45	40
	23	23	48	43.04	2	32	58.9	4.28	2.28	.056	8503	9	44	35
	24	23	51	33.54	2	14	28.5	4.28	2.28	.053	4292	9	43	28
	25	23	54	23.89	1	55	57.8	4.29	2.28	.050	0080	9	42	22
	26	23	57	14.07	1	37	27.0	4.30	2.29	.046	5868	9	41	16
	27	0	00	04.11	-1	18	56.1	4.30	2.29	2.043	1657	9	40	09
	28	0	02	54.01	1	00	25.5	4.31	2.29	.039	7448	9	39	03
	29	0	05	43.77	0	41	55.3	4.32	2.30	.036	3241	9	37	56
	30	0	08	33.40	0	23	25.7	4.33	2.30	.032	9038	9	36	49
MAY	1	0	11	22.93	-0	04	56.8	4.33	2.31	.029	4837	9	35	42
	2	0	14	12.34	+0	13	31.1	4.34	2.31	2.026	0640	9	34	35

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	O ° ' "			"	"	AU		H	M	S
MAY	3	0	17	01.67	+	0	31	58.0	4.35	2.31	2.022 6441	9	33	28
	4	0	19	50.91		0	50	23.7	4.36	2.32	.019 2238	9	32	20
	5	0	22	40.08		1	08	48.0	4.36	2.32	.015 8027	9	31	13
	6	0	25	29.18		1	27	10.6	4.37	2.33	.012 3802	9	30	06
	7	0	28	18.23		1	45	31.5	4.38	2.33	.008 9557	9	28	58
	8	0	31	07.21	+	2	03	50.5	4.38	2.33	2.005 5286	9	27	51
	9	0	33	56.15		2	22	07.3	4.39	2.34	2.002 0983	9	26	43
	10	0	36	45.05		2	40	21.7	4.40	2.34	1.998 6642	9	25	35
	11	0	39	33.91		2	58	33.7	4.41	2.35	.995 2260	9	24	28
	12	0	42	22.73		3	16	42.9	4.42	2.35	.991 7830	9	23	20
	13	0	45	11.53	+	3	34	49.3	4.42	2.35	1.988 3350	9	22	12
	14	0	48	00.30		3	52	52.6	4.43	2.36	.984 8816	9	21	05
15	0	50	49.06		4	10	52.6	4.44	2.36	.981 4225	9	19	57	
16	0	53	37.81		4	28	49.3	4.45	2.37	.977 9575	9	18	49	
17	0	56	26.55		4	46	42.3	4.45	2.37	.974 4865	9	17	41	
18	0	59	15.28	+	5	04	31.7	4.46	2.37	1.971 0092	9	16	34	
19	1	02	04.02		5	22	17.0	4.47	2.38	.967 5256	9	15	26	
20	1	04	52.76		5	39	58.3	4.48	2.38	.964 0356	9	14	18	
21	1	07	41.51		5	57	35.3	4.49	2.39	.960 5390	9	13	10	
22	1	10	30.28		6	15	07.8	4.49	2.39	.957 0358	9	12	03	
23	1	13	19.06	+	6	32	35.8	4.50	2.40	1.953 5260	9	10	55	
24	1	16	07.86		6	49	58.9	4.51	2.40	.950 0094	9	09	47	
25	1	18	56.69		7	07	17.1	4.52	2.40	.946 4861	9	08	39	
26	1	21	45.54		7	24	30.2	4.53	2.41	.942 9562	9	07	32	
27	1	24	34.44		7	41	38.0	4.53	2.41	.939 4195	9	06	24	
28	1	27	23.38	+	7	58	40.4	4.54	2.42	1.935 8760	9	05	17	
29	1	30	12.37		8	15	37.2	4.55	2.42	.932 3256	9	04	09	
30	1	33	01.41		8	32	28.3	4.56	2.43	.928 7682	9	03	02	
31	1	35	50.53		8	49	13.6	4.57	2.43	.925 2035	9	01	54	
JUNE	1	1	38	39.71		9	05	53.0	4.58	2.44	.921 6311	9	00	47
2	1	41	28.98	+	9	22	26.2	4.58	2.44	1.918 0505	8	59	40	
3	1	44	18.33		9	38	53.2	4.59	2.44	.914 4611	8	58	33	
4	1	47	07.77		9	55	13.7	4.60	2.45	.910 8623	8	57	26	
5	1	49	57.30		10	11	27.7	4.61	2.45	.907 2532	8	56	19	
6	1	52	46.92		10	27	35.0	4.62	2.46	.903 6333	8	55	12	
7	1	55	36.63	+10	43	35.3	4.63	2.46	1.900 0018	8	54	05		
8	1	58	26.45		10	59	28.7	4.64	2.47	.896 3579	8	52	59	
9	2	01	16.36		11	15	14.9	4.65	2.47	.892 7012	8	51	52	
10	2	04	06.37		11	30	53.8	4.66	2.48	.889 0312	8	50	46	
11	2	06	56.49		11	46	25.2	4.66	2.48	.885 3473	8	49	39	
12	2	09	46.70	+12	01	49.0	4.67	2.49	1.881 6491	8	48	33		
13	2	12	37.02		12	17	05.1	4.68	2.49	.877 9364	8	47	27	
14	2	15	27.44		12	32	13.3	4.69	2.50	.874 2086	8	46	21	
15	2	18	17.96		12	47	13.5	4.70	2.50	.870 4656	8	45	15	
16	2	21	08.59		13	02	05.5	4.71	2.51	.866 7071	8	44	09	
17	2	23	59.31	+13	16	49.3	4.72	2.51	1.862 9330	8	43	03		
18	2	26	50.12		13	31	24.6	4.73	2.52	.859 1428	8	41	58	
19	2	29	41.04		13	45	51.4	4.74	2.52	.855 3367	8	40	52	
20	2	32	32.04		14	00	09.5	4.75	2.53	.851 5142	8	39	46	
21	2	35	23.14		14	14	18.8	4.76	2.53	.847 6755	8	38	41	
22	2	38	14.33	+14	28	19.1	4.77	2.54	1.843 8205	8	37	36		
23	2	41	05.61		14	42	10.4	4.78	2.54	.839 9490	8	36	31	
24	2	43	56.98		14	55	52.5	4.79	2.55	.836 0611	8	35	26	
25	2	46	48.45		15	09	25.4	4.80	2.55	.832 1566	8	34	21	
26	2	49	40.00		15	22	48.8	4.81	2.56	.828 2354	8	33	16	
27	2	52	31.65	+15	36	02.8	4.82	2.57	1.824 2975	8	32	11		
28	2	55	23.40		15	49	07.2	4.83	2.57	.820 3424	8	31	06	
29	2	58	15.25		16	02	02.0	4.84	2.58	.816 3700	8	30	01	
30	3	01	07.19		16	14	47.0	4.85	2.58	.812 3797	8	28	57	
JULY	1	3	03	59.23		16	27	22.1	4.86	2.59	.808 3711	8	27	52
2	3	06	51.36	+16	39	47.3	4.87	2.59	1.804 3435	8	26	48		

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"			AU		H	M	S
JULY	3	3	09	43.58	+16	52	02.5	4.88	2.60	1.800	2964	8	25	44
	4	3	12	35.89	17	04	07.5	4.90	2.61	.796	2286	8	24	40
	5	3	15	28.28	17	16	02.3	4.91	2.61	.792	1397	8	23	36
	6	3	18	20.75	17	27	46.8	4.92	2.62	.788	0290	8	22	32
	7	3	21	13.30	17	39	20.8	4.93	2.62	.783	8957	8	21	28
	8	3	24	05.92	+17	50	44.3	4.94	2.63	1.779	7392	8	20	24
	9	3	26	58.60	18	01	57.2	4.95	2.64	.775	5591	8	19	20
	10	3	29	51.34	18	12	59.5	4.96	2.64	.771	3549	8	18	16
	11	3	32	44.14	18	23	51.0	4.98	2.65	.767	1262	8	17	13
	12	3	35	36.97	18	34	31.7	4.99	2.65	.762	8726	8	16	09
	13	3	38	29.85	+18	45	01.5	5.00	2.66	1.758	5938	8	15	05
	14	3	41	22.75	18	55	20.4	5.01	2.67	.754	2894	8	14	02
	15	3	44	15.66	19	05	28.2	5.03	2.67	.749	9592	8	12	58
	16	3	47	08.59	19	15	25.0	5.04	2.68	.745	6031	8	11	54
	17	3	50	01.51	19	25	10.6	5.05	2.69	.741	2208	8	10	51
	18	3	52	54.43	+19	34	45.0	5.06	2.69	1.736	8124	8	09	47
	19	3	55	47.32	19	44	08.1	5.08	2.70	.732	3774	8	08	44
	20	3	58	40.19	19	53	19.8	5.09	2.71	.727	9162	8	07	40
	21	4	01	33.02	20	02	20.2	5.10	2.72	.723	4286	8	06	36
	22	4	04	25.81	20	11	09.2	5.12	2.72	.718	9147	8	05	33
	23	4	07	18.55	+20	19	46.7	5.13	2.73	1.714	3743	8	04	29
	24	4	10	11.24	20	28	12.7	5.14	2.74	.709	8075	8	03	25
	25	4	13	03.87	20	36	27.2	5.16	2.74	.705	2144	8	02	21
	26	4	15	56.43	20	44	30.2	5.17	2.75	.700	5947	8	01	17
	27	4	18	48.92	20	52	21.7	5.19	2.76	.695	9480	8	00	13
	28	4	21	41.33	+21	00	01.6	5.20	2.77	1.691	2743	7	59	09
	29	4	24	33.65	21	07	29.9	5.21	2.77	.686	5731	7	58	05
	30	4	27	25.87	21	14	46.7	5.23	2.78	.681	8438	7	57	00
AUG.	31	4	30	17.99	21	21	51.8	5.24	2.79	.677	0860	7	55	56
	1	4	33	09.99	21	28	45.3	5.26	2.80	.672	2990	7	54	51
	2	4	36	01.87	+21	35	27.2	5.27	2.81	1.667	4821	7	53	47
	3	4	38	53.62	21	41	57.5	5.29	2.81	.662	6349	7	52	42
	4	4	41	45.22	21	48	16.1	5.30	2.82	.657	7565	7	51	37
	5	4	44	36.67	21	54	23.1	5.32	2.83	.652	8464	7	50	32
	6	4	47	27.95	22	00	18.5	5.34	2.84	.647	9042	7	49	27
	7	4	50	19.06	+22	06	02.3	5.35	2.85	1.642	9295	7	48	21
	8	4	53	09.97	22	11	34.6	5.37	2.86	.637	9219	7	47	15
	9	4	56	00.67	22	16	55.3	5.39	2.87	.632	8810	7	46	10
	10	4	58	51.15	22	22	04.5	5.40	2.88	.627	8068	7	45	03
	11	5	01	41.39	22	27	02.2	5.42	2.88	.622	6989	7	43	57
	12	5	04	31.38	+22	31	48.4	5.44	2.89	1.617	5571	7	42	51
	13	5	07	21.11	22	36	23.3	5.45	2.90	.612	3812	7	41	44
	14	5	10	10.55	22	40	46.7	5.47	2.91	.607	1713	7	40	37
	15	5	12	59.69	22	44	58.8	5.49	2.92	.601	9272	7	39	29
	16	5	15	48.52	22	48	59.5	5.51	2.93	.596	6491	7	38	21
	17	5	18	37.02	+22	52	49.0	5.53	2.94	1.591	3370	7	37	13
	18	5	21	25.19	22	56	27.2	5.54	2.95	.585	9911	7	36	05
	19	5	24	13.00	22	59	54.3	5.56	2.96	.580	6116	7	34	56
	20	5	27	00.45	23	03	10.2	5.58	2.97	.575	1986	7	33	47
	21	5	29	47.53	23	06	15.2	5.60	2.98	.569	7523	7	32	37
	22	5	32	34.23	+23	09	09.1	5.62	2.99	1.564	2730	7	31	27
	23	5	35	20.53	23	11	52.2	5.64	3.00	.558	7604	7	30	17
	24	5	38	06.42	23	14	24.5	5.66	3.01	.553	2146	7	29	06
	25	5	40	51.90	23	16	46.1	5.68	3.02	.547	6356	7	27	55
	26	5	43	36.95	23	18	57.0	5.70	3.03	.542	0233	7	26	44
	27	5	46	21.56	+23	20	57.4	5.72	3.05	1.536	3773	7	25	32
	28	5	49	05.72	23	22	47.3	5.75	3.06	.530	6972	7	24	19
	29	5	51	49.42	23	24	26.8	5.77	3.07	.524	9828	7	23	06
	30	5	54	32.64	23	25	56.1	5.79	3.08	.519	2336	7	21	53
	31	5	57	15.38	23	27	15.1	5.81	3.09	.513	4492	7	20	39
SEPT.	1	5	59	57.62	+23	28	24.0	5.83	3.10	1.507	6291	7	19	24

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	°	'	"			AU		H	M	S
SEPT. 2	6	02	39.36	+23	29	23.0	5.86	3.12	1.501	7730	7	18	09
3	6	05	20.56	23	30	12.2	5.88	3.13	.495	8806	7	16	54
4	6	08	01.22	23	30	51.6	5.90	3.14	.489	9516	7	15	38
5	6	10	41.33	23	31	21.4	5.93	3.15	.483	9859	7	14	22
6	6	13	20.86	23	31	41.7	5.95	3.17	.477	9832	7	13	04
7	6	15	59.80	+23	31	52.7	5.97	3.18	1.471	9437	7	11	47
8	6	18	38.14	23	31	54.5	6.00	3.19	.465	8670	7	10	28
9	6	21	15.84	23	31	47.2	6.02	3.21	.459	7535	7	09	09
10	6	23	52.90	23	31	30.9	6.05	3.22	.453	6029	7	07	50
11	6	26	29.31	23	31	05.9	6.08	3.23	.447	4154	7	06	29
12	6	29	05.03	+23	30	32.2	6.10	3.25	1.441	1915	7	05	09
13	6	31	40.06	23	29	50.0	6.13	3.26	.434	9310	7	03	47
14	6	34	14.38	23	28	59.4	6.16	3.28	.428	6347	7	02	25
15	6	36	47.97	23	28	00.5	6.18	3.29	.422	3028	7	01	01
16	6	39	20.83	23	26	53.6	6.21	3.31	.415	9359	6	59	38
17	6	41	52.93	+23	25	38.8	6.24	3.32	1.409	5344	6	58	13
18	6	44	24.27	23	24	16.2	6.27	3.34	.403	0987	6	56	48
19	6	46	54.84	23	22	46.1	6.30	3.35	.396	6293	6	55	22
20	6	49	24.62	23	21	08.5	6.33	3.37	.390	1267	6	53	55
21	6	51	53.59	23	19	23.6	6.36	3.38	.383	5913	6	52	27
22	6	54	21.75	+23	17	31.8	6.39	3.40	1.377	0230	6	50	58
23	6	56	49.09	23	15	32.9	6.42	3.42	.370	4222	6	49	29
24	6	59	15.59	23	13	27.4	6.45	3.43	.363	7890	6	47	59
25	7	01	41.25	23	11	15.3	6.48	3.45	.357	1234	6	46	28
26	7	04	06.04	23	08	56.7	6.51	3.47	.350	4254	6	44	56
27	7	06	29.96	+23	06	32.0	6.54	3.48	1.343	6948	6	43	23
28	7	08	53.00	23	04	01.3	6.58	3.50	.336	9319	6	41	49
29	7	11	15.14	23	01	24.7	6.61	3.52	.330	1363	6	40	15
30	7	13	36.37	22	58	42.5	6.65	3.54	.323	3084	6	38	39
OCT. 1	7	15	56.68	22	55	55.0	6.68	3.56	.316	4478	6	37	03
2	7	18	16.03	+22	53	02.2	6.72	3.57	1.309	5550	6	35	26
3	7	20	34.43	22	50	04.5	6.75	3.59	.302	6299	6	33	47
4	7	22	51.84	22	47	02.0	6.79	3.61	.295	6728	6	32	08
5	7	25	08.25	22	43	54.9	6.82	3.63	.288	6841	6	30	28
6	7	27	23.65	22	40	43.6	6.86	3.65	.281	6640	6	28	46
7	7	29	38.00	+22	37	28.2	6.90	3.67	1.274	6129	6	27	04
8	7	31	51.29	22	34	08.9	6.94	3.69	.267	5314	6	25	21
9	7	34	03.50	22	30	46.0	6.98	3.71	.260	4198	6	23	36
10	7	36	14.61	22	27	19.7	7.02	3.73	.253	2788	6	21	50
11	7	38	24.60	22	23	50.2	7.06	3.76	.246	1093	6	20	04
12	7	40	33.44	+22	20	17.7	7.10	3.78	1.238	9120	6	18	16
13	7	42	41.13	22	16	42.6	7.14	3.80	.231	6876	6	16	27
14	7	44	47.64	22	13	05.0	7.18	3.82	.224	4373	6	14	37
15	7	46	52.95	22	09	25.1	7.23	3.85	.217	1622	6	12	45
16	7	48	57.04	22	05	43.3	7.27	3.87	.209	8632	6	10	53
17	7	50	59.91	+22	01	59.7	7.31	3.89	1.202	5414	6	08	59
18	7	53	01.52	21	58	14.6	7.36	3.92	.195	1977	6	07	04
19	7	55	01.87	21	54	28.3	7.40	3.94	.187	8331	6	05	07
20	7	57	00.94	21	50	40.9	7.45	3.96	.180	4484	6	03	10
21	7	58	58.71	21	46	52.8	7.50	3.99	.173	0444	6	01	11
22	8	00	55.16	+21	43	04.2	7.54	4.02	1.165	6218	5	59	10
23	8	02	50.28	21	39	15.3	7.59	4.04	.158	1811	5	57	09
24	8	04	44.05	21	35	26.3	7.64	4.07	.150	7232	5	55	06
25	8	06	36.45	21	31	37.6	7.69	4.09	.143	2485	5	53	02
26	8	08	27.46	21	27	49.5	7.74	4.12	.135	7579	5	50	56
27	8	10	17.06	+21	24	02.1	7.79	4.15	1.128	2518	5	48	49
28	8	12	05.23	21	20	15.8	7.85	4.18	.120	7310	5	46	40
29	8	13	51.94	21	16	30.9	7.90	4.20	.113	1962	5	44	30
30	8	15	37.16	21	12	47.6	7.95	4.23	.105	6484	5	42	19
31	8	17	20.88	21	09	06.3	8.01	4.26	.098	0882	5	40	06
NOV. 1	8	19	03.05	+21	05	27.3	8.06	4.29	1.090	5168	5	37	51

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"	°	'	AU		H	M	S
NOV.	2	8	20	43.65	+21	01	50.9	8.12	4.32	1.082	9351	5	35	35
	3	8	22	22.65	20	58	17.3	8.18	4.35	.075	3443	5	33	17
	4	8	24	00.01	20	54	46.9	8.24	4.38	.067	7456	5	30	58
	5	8	25	35.71	20	51	20.1	8.30	4.41	.060	1401	5	28	37
	6	8	27	09.71	20	47	57.0	8.36	4.45	.052	5294	5	26	14
	7	8	28	41.98	+20	44	38.1	8.42	4.48	1.044	9148	5	23	50
	8	8	30	12.47	20	41	23.6	8.48	4.51	.037	2981	5	21	24
	9	8	31	41.16	20	38	13.9	8.54	4.55	.029	6809	5	18	56
	10	8	33	08.02	20	35	09.3	8.60	4.58	.022	0651	5	16	26
	11	8	34	33.00	20	32	10.0	8.67	4.61	.014	4527	5	13	54
	12	8	35	56.07	+20	29	16.5	8.73	4.65	1.006	8457	5	11	20
	13	8	37	17.21	20	26	29.0	8.80	4.68	0.999	2464	5	08	45
	14	8	38	36.37	20	23	47.7	8.87	4.72	.991	6567	5	06	07
	15	8	39	53.53	20	21	13.2	8.94	4.76	.984	0789	5	03	28
	16	8	41	08.64	20	18	45.5	9.01	4.79	.976	5149	5	00	46
	17	8	42	21.68	+20	16	25.1	9.08	4.83	0.968	9669	4	58	03
	18	8	43	32.61	20	14	12.3	9.15	4.87	.961	4367	4	55	17
	19	8	44	41.41	20	12	07.2	9.22	4.91	.953	9263	4	52	29
	20	8	45	48.03	20	10	10.3	9.29	4.94	.946	4375	4	49	39
	21	8	46	52.44	20	08	21.8	9.37	4.98	.938	9723	4	46	47
	22	8	47	54.60	+20	06	42.0	9.44	5.02	0.931	5326	4	43	52
	23	8	48	54.48	20	05	11.3	9.52	5.06	.924	1204	4	40	55
	24	8	49	52.03	20	03	50.0	9.59	5.11	.916	7377	4	37	56
	25	8	50	47.21	20	02	38.4	9.67	5.15	.909	3867	4	34	55
	26	8	51	39.98	20	01	36.8	9.75	5.19	.902	0696	4	31	51
	27	8	52	30.29	+20	00	45.5	9.83	5.23	0.894	7885	4	28	45
	28	8	53	18.09	20	00	04.8	9.91	5.27	.887	5461	4	25	36
	29	8	54	03.33	19	59	35.1	9.99	5.32	.880	3446	4	22	25
	30	8	54	45.97	19	59	16.7	10.07	5.36	.873	1868	4	19	11
DEC.	1	8	55	25.95	19	59	09.8	10.15	5.40	.866	0755	4	15	54
	2	8	56	03.22	+19	59	14.8	10.24	5.45	0.859	0133	4	12	35
	3	8	56	37.73	19	59	31.9	10.32	5.49	.852	0035	4	09	13
	4	8	57	09.42	20	00	01.4	10.41	5.54	.845	0490	4	05	48
	5	8	57	38.25	20	00	43.5	10.49	5.58	.838	1532	4	02	20
	6	8	58	04.16	20	01	38.5	10.58	5.63	.831	3196	3	58	49
	7	8	58	27.11	+20	02	46.5	10.67	5.68	0.824	5516	3	55	16
	8	8	58	47.03	20	04	07.8	10.75	5.72	.817	8530	3	51	39
	9	8	59	03.90	20	05	42.5	10.84	5.77	.811	2278	3	48	00
	10	8	59	17.65	20	07	30.9	10.93	5.82	.804	6801	3	44	17
	11	8	59	28.25	20	09	33.0	11.02	5.86	.798	2139	3	40	31
	12	8	59	35.66	+20	11	48.9	11.11	5.91	0.791	8335	3	36	42
	13	8	59	39.84	20	14	18.6	11.19	5.96	.785	5428	3	32	50
	14	8	59	40.76	20	17	02.3	11.28	6.01	.779	3460	3	28	54
	15	8	59	38.39	20	19	59.8	11.37	6.05	.773	2472	3	24	56
	16	8	59	32.70	20	23	11.2	11.46	6.10	.767	2503	3	20	53
	17	8	59	23.67	+20	26	36.4	11.55	6.15	0.761	3593	3	16	48
	18	8	59	11.28	20	30	15.3	11.64	6.19	.755	5780	3	12	39
	19	8	58	55.51	20	34	07.9	11.73	6.24	.749	9104	3	08	27
	20	8	58	36.35	20	36	13.8	11.81	6.29	.744	3605	3	04	12
	21	8	58	13.77	20	42	33.1	11.90	6.33	.738	9321	2	59	53
	22	8	57	47.77	+20	47	05.5	11.99	6.38	0.733	6293	2	55	31
	23	8	57	18.33	20	51	50.7	12.07	6.42	.728	4563	2	51	05
	24	8	56	45.45	20	56	48.6	12.16	6.47	.723	4172	2	46	36
	25	8	56	09.13	21	01	58.7	12.24	6.51	.718	5160	2	42	04
	26	8	55	29.38	21	07	20.7	12.32	6.56	.713	7572	2	37	28
	27	8	54	46.19	+21	12	54.2	12.40	6.60	0.709	1450	2	32	49
	28	8	53	59.59	21	18	38.9	12.48	6.64	.704	6834	2	28	06
	29	8	53	09.60	21	24	34.0	12.56	6.68	.700	3772	2	23	20
	30	8	52	16.24	21	30	39.2	12.63	6.72	.696	2306	2	18	31
	31	8	51	19.55	21	36	53.9	12.70	6.76	0.692	2480	2	13	39

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	O	'	"	"	"	AU		H	M	S
JAN.	1	8 50	19.57	+21 43	17.3		12.77	6.80	0.688	4340	2 06	43	
	2	8 49	16.35	21 49	48.9		12.84	6.83	.684	7928	2 03	44	
	3	8 48	09.96	21 56	27.8		12.91	6.87	.681	3291	1 58	42	
	4	8 47	00.46	22 03	13.2		12.97	6.90	.678	0471	1 53	36	
	5	8 45	47.95	22 10	04.5		13.03	6.93	.674	9515	1 48	28	
	6	8 44	32.51	+22 17	00.6		13.09	6.96	0.672	0465	1 43	17	
	7	8 43	14.25	22 24	00.6		13.14	6.99	.669	3364	1 38	03	
	8	8 41	53.28	22 31	03.7		13.19	7.02	.666	8251	1 32	47	
	9	8 40	29.74	22 38	08.9		13.23	7.04	.664	5166	1 27	28	
	10	8 39	03.76	22 45	15.2		13.28	7.07	.662	4142	1 22	06	
	11	8 37	35.49	+22 52	21.4		13.31	7.09	0.660	5214	1 16	42	
	12	8 36	05.09	22 59	26.8		13.35	7.10	.658	8408	1 11	17	
	13	8 34	32.74	23 06	30.2		13.38	7.12	.657	3750	1 05	49	
	14	8 32	58.60	23 13	30.5		13.40	7.13	.656	1262	1 00	19	
	15	8 31	22.87	23 20	27.0		13.42	7.14	.655	0963	0 54	48	
	16	8 29	45.73	+23 27	18.5		13.44	7.15	0.654	2868	0 49	16	
	17	8 28	07.35	23 34	04.2		13.45	7.16	.653	6990	0 43	42	
	18	8 26	27.94	23 40	43.3		13.46	7.16	.653	3341	0 38	08	
	19	8 24	47.70	23 47	14.8		13.46	7.16	.653	1929	0 32	32	
	20	8 23	06.82	23 53	37.9		13.46	7.16	.653	2760	0 26	56	
	21	8 21	25.49	+23 59	51.9		13.46	7.16	0.653	5839	0 21	19	
	22	8 19	43.93	24 05	56.1		13.44	7.15	.654	1165	0 15	42	
	23	8 18	02.33	24 11	49.8		13.43	7.15	.654	8739	0 10	06	
	24	8 16	20.88	24 17	32.3		13.41	7.14	.655	8557	0 04	29	
	25	8 14	39.79	24 23	03.2		13.38	7.12	.657	0614	23 53	17	
	26	8 12	59.26	+24 28	21.8		13.35	7.11	0.658	4902	23 47	42	
	27	8 11	19.47	24 33	27.7		13.32	7.09	.660	1413	23 42	08	
	28	8 09	40.63	24 38	20.4		13.28	7.07	.662	0134	23 36	35	
	29	8 08	02.92	24 42	59.7		13.24	7.05	.664	1053	23 31	03	
	30	8 06	26.52	24 47	25.2		13.20	7.02	.666	4155	23 25	33	
FEB.	31	8 04	51.62	+24 51	36.5		13.15	7.00	0.668	9422	23 20	04	
	1	8 03	18.40	24 55	33.6		13.09	6.97	.671	6840	23 14	37	
	2	8 01	47.02	24 59	16.3		13.04	6.94	.674	6384	23 09	13	
	3	8 00	17.66	25 02	44.4		12.97	6.90	.677	8033	23 03	50	
	4	7 58	50.47	25 05	57.9		12.91	6.87	.681	1765	22 58	30	
	5	7 57	25.61	+25 08	56.8		12.84	6.83	0.684	7548	22 53	12	
	6	7 56	03.22	25 11	41.2		12.77	6.80	.688	5356	22 47	57	
	7	7 54	43.44	25 14	11.1		12.70	6.76	.692	5154	22 42	44	
	8	7 53	26.39	25 16	26.6		12.62	6.72	.696	6907	22 37	34	
	9	7 52	12.21	25 18	28.0		12.54	6.68	.701	0579	22 32	27	
	10	7 51	00.99	+25 20	15.3		12.46	6.63	0.705	6127	22 27	23	
	11	7 49	52.83	25 21	48.9		12.38	6.59	.710	3510	22 22	23	
	12	7 48	47.82	25 23	09.0		12.29	6.54	.715	2685	22 17	25	
	13	7 47	46.03	25 24	16.0		12.21	6.50	.720	3609	22 12	31	
	14	7 46	47.52	25 25	10.0		12.12	6.45	.725	6236	22 07	40	
	15	7 45	52.34	+25 25	51.5		12.03	6.40	0.731	0523	22 02	52	
	16	7 45	00.53	25 26	20.9		11.94	6.35	.736	6429	21 58	08	
	17	7 44	12.13	25 26	38.4		11.85	6.30	.742	3905	21 53	27	
	18	7 43	27.15	25 26	44.4		11.75	6.25	.748	2912	21 48	50	
	19	7 42	45.62	25 26	39.3		11.66	6.20	.754	3404	21 44	15	
	20	7 42	07.53	+25 26	23.4		11.56	6.15	0.760	5343	21 39	45	
	21	7 41	32.89	25 25	57.0		11.47	6.10	.766	8683	21 35	17	
	22	7 41	01.69	25 25	20.4		11.37	6.05	.773	3384	21 30	54	
	23	7 40	33.92	25 24	33.9		11.28	6.00	.779	9408	21 26	33	
	24	7 40	09.56	25 23	38.0		11.18	5.95	.786	6713	21 22	16	
	25	7 39	48.60	+25 22	32.7		11.08	5.90	0.793	5265	21 18	02	
	26	7 39	31.02	25 21	18.5		10.99	5.85	.800	5024	21 13	52	
	27	7 39	16.77	25 19	55.5		10.89	5.79	.807	5957	21 09	45	
	28	7 39	05.85	25 18	24.0		10.79	5.74	.814	8028	21 05	41	
MAR.	1	7 38	58.21	25 16	44.2		10.70	5.69	.822	1201	21 01	40	
	2	7 38	53.83	+25 14	56.4		10.60	5.64	0.829	5445	20 57	43	

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
	H	M	S	°	'	''	''	''	AU	H M S
MAR. 3	7	38	52.67	+25	13	00.8	10.51	5.59	0.837 0724	20 53 48
4	7	38	54.69	25	10	57.4	10.41	5.54	.844 7006	20 49 57
5	7	38	59.86	25	08	46.6	10.32	5.49	.852 4255	20 46 09
6	7	39	08.14	25	06	28.5	10.22	5.44	.860 2438	20 42 24
7	7	39	19.47	25	04	03.2	10.13	5.39	.868 1520	20 38 42
8	7	39	33.84	+25	01	31.0	10.04	5.34	0.876 1466	20 35 03
9	7	39	51.17	24	58	51.8	9.95	5.29	.884 2240	20 31 27
10	7	40	11.44	24	56	05.9	9.85	5.24	.892 3806	20 27 54
11	7	40	34.59	24	53	13.3	9.76	5.20	.900 6129	20 24 23
12	7	41	00.57	24	50	14.3	9.68	5.15	.908 9175	20 20 55
13	7	41	29.32	+24	47	08.8	9.59	5.10	0.917 2908	20 17 30
14	7	42	00.79	24	43	57.1	9.50	5.06	.925 7296	20 14 08
15	7	42	34.92	24	40	39.2	9.41	5.01	.934 2308	20 10 48
16	7	43	11.65	24	37	15.2	9.33	4.96	.942 7913	20 07 31
17	7	43	50.92	24	33	45.1	9.24	4.92	.951 4081	20 04 16
18	7	44	32.67	+24	30	09.2	9.16	4.87	0.960 0782	20 01 04
19	7	45	16.85	24	26	27.3	9.08	4.83	.968 7993	19 57 54
20	7	46	03.38	24	22	39.5	9.00	4.79	.977 5686	19 54 46
21	7	46	52.22	24	18	46.0	8.92	4.74	.986 3834	19 51 41
22	7	47	43.30	24	14	46.6	8.84	4.70	0.995 2416	19 48 37
23	7	48	36.57	+24	10	41.5	8.76	4.66	1.004 1408	19 45 36
24	7	49	31.97	24	06	30.6	8.68	4.62	.013 0788	19 42 37
25	7	50	29.45	24	02	14.0	8.60	4.58	.022 0539	19 39 40
26	7	51	28.95	23	57	51.6	8.53	4.54	.031 0641	19 36 45
27	7	52	30.43	23	53	23.4	8.45	4.50	.040 1073	19 33 52
28	7	53	33.84	+23	48	49.5	8.38	4.46	1.049 1821	19 31 01
29	7	54	39.12	23	44	09.7	8.31	4.42	.058 2868	19 28 11
30	7	55	46.25	23	39	24.2	8.24	4.38	.067 4198	19 25 24
31	7	56	55.17	23	34	32.8	8.17	4.35	.076 5793	19 22 38
APR. 1	7	58	05.83	23	29	35.6	8.10	4.31	.085 7636	19 19 54
2	7	59	18.21	+23	24	32.5	8.03	4.27	1.094 9712	19 17 11
3	8	00	32.25	23	19	23.5	7.96	4.24	.104 2001	19 14 30
4	8	01	47.91	23	14	08.5	7.90	4.20	.113 4485	19 11 51
5	8	03	05.17	23	08	47.6	7.82	4.17	.122 7147	19 09 13
6	8	04	23.98	23	03	20.7	7.77	4.13	.131 9965	19 06 37
7	8	05	44.31	+22	57	47.7	7.71	4.10	1.141 2922	19 04 02
8	8	07	06.12	22	52	08.7	7.64	4.07	.150 5998	19 01 29
9	8	08	29.36	22	46	23.6	7.58	4.03	.159 9174	18 58 57
10	8	09	54.00	22	40	32.5	7.52	4.00	.169 2431	18 56 26
11	8	11	20.01	22	34	35.2	7.46	3.97	.178 5751	18 53 57
12	8	12	47.34	+22	28	31.9	7.40	3.94	1.187 9118	18 51 29
13	8	14	15.95	22	22	22.5	7.35	3.91	.197 2515	18 49 02
14	8	15	45.80	22	16	06.9	7.29	3.88	.206 5927	18 46 37
15	8	17	16.86	22	09	45.2	7.23	3.85	.215 9340	18 44 12
16	8	18	49.08	22	03	17.4	7.18	3.82	.225 2737	18 41 49
17	8	20	22.44	+21	56	43.5	7.12	3.79	1.234 6109	18 39 27
18	8	21	56.90	21	50	03.3	7.07	3.76	.243 9440	18 37 06
19	8	23	32.41	21	43	17.0	7.02	3.73	.253 2722	18 34 46
20	8	25	08.96	21	36	24.5	6.97	3.71	.262 5940	18 32 27
21	8	26	46.50	21	29	25.8	6.91	3.68	.271 9088	18 30 09
22	8	28	25.00	+21	22	20.8	6.86	3.65	1.281 2155	18 27 52
23	8	30	04.45	21	15	09.6	6.81	3.63	.290 5136	18 25 36
24	8	31	44.80	21	07	52.1	6.77	3.60	.299 8020	18 23 20
25	8	33	26.04	21	00	28.4	6.72	3.58	.309 0804	18 21 06
26	8	35	08.13	20	52	58.3	6.67	3.55	.318 3479	18 18 52
27	8	36	51.06	+20	45	21.9	6.62	3.53	1.327 6041	18 16 40
28	8	38	34.81	20	37	39.2	6.58	3.50	.336 8482	18 14 28
29	8	40	19.34	20	29	50.2	6.53	3.48	.346 0795	18 12 16
30	8	42	04.65	20	21	54.7	6.49	3.45	.355 2970	18 10 06
MAY 1	8	43	50.71	20	13	53.0	6.44	3.43	.364 5000	18 07 56
2	8	45	37.49	+20	05	44.7	6.40	3.41	1.373 6875	18 05 47

DATE	APPT. R.A.	APPT. DEC.	H.P.	S.D.	T.D.	E.T.
	H M S	O ° ' "	" "	" "	AU	H M S
MAY 3	8 47 25.00	+19 57 30.2	6.36	3.38	1.382 8583	18 03 39
4	8 49 13.20	19 49 09.1	6.32	3.36	.392 0115	18 01 31
5	8 51 02.08	19 40 41.7	6.28	3.34	.401 1461	17 59 24
6	8 52 51.63	19 32 07.8	6.24	3.32	.410 2607	17 57 18
7	8 54 41.82	19 23 27.5	6.20	3.30	.419 3543	17 55 12
8	8 56 32.64	+19 14 40.8	6.16	3.28	1.428 4258	17 53 07
9	8 58 24.06	19 05 47.7	6.12	3.26	.437 4741	17 51 02
10	9 00 16.08	18 56 48.3	6.08	3.24	.446 4983	17 48 59
11	9 02 08.65	18 47 42.5	6.04	3.22	.455 4974	17 46 55
12	9 04 01.78	18 38 30.4	6.00	3.20	.464 4705	17 44 52
13	9 05 55.44	+18 29 12.0	5.97	3.18	1.473 4168	17 42 50
14	9 07 49.60	18 19 47.3	5.93	3.16	.482 3353	17 40 48
15	9 09 44.26	18 10 16.4	5.90	3.14	.491 2256	17 38 47
16	9 11 39.39	18 00 39.3	5.86	3.12	.500 0870	17 36 46
17	9 13 34.98	17 50 56.0	5.83	3.10	.508 9187	17 34 45
18	9 15 31.02	+17 41 06.5	5.79	3.08	1.517 7202	17 32 45
19	9 17 27.48	17 31 10.8	5.76	3.07	.526 4910	17 30 46
20	9 19 24.36	17 21 09.0	5.73	3.05	.535 2308	17 28 46
21	9 21 21.63	17 11 01.2	5.70	3.03	.543 9396	17 26 48
22	9 23 19.29	17 00 47.2	5.66	3.01	.552 6167	17 24 49
23	9 25 17.33	+16 50 27.2	5.63	3.00	1.561 2624	17 22 51
24	9 27 15.74	16 40 01.2	5.60	2.98	.569 8764	17 20 53
25	9 29 14.50	16 29 29.1	5.57	2.96	.578 4584	17 18 56
26	9 31 13.61	16 18 51.2	5.54	2.95	.587 0085	17 16 59
27	9 33 13.05	16 08 07.3	5.51	2.93	.595 5263	17 15 02
28	9 35 12.82	+15 57 17.4	5.48	2.92	1.604 0113	17 13 06
29	9 37 12.92	15 46 21.7	5.45	2.90	.612 4631	17 11 10
30	9 39 13.34	15 35 20.0	5.43	2.89	.620 8813	17 09 14
31	9 41 14.07	15 24 12.5	5.40	2.87	.629 2651	17 07 18
JUNE 1	9 43 15.11	15 12 59.1	5.37	2.86	.637 6139	17 05 23
2	9 45 16.45	+15 01 40.0	5.34	2.84	1.645 9271	17 03 28
3	9 47 18.09	14 50 15.0	5.32	2.83	.654 2038	17 01 34
4	9 49 20.03	14 38 44.4	5.29	2.82	.662 4436	16 59 40
5	9 51 22.25	14 27 08.0	5.26	2.80	.670 6453	16 57 46
6	9 53 24.74	14 15 26.1	5.24	2.79	.678 8087	16 55 52
7	9 55 27.51	+14 03 38.5	5.21	2.77	1.686 9328	16 53 58
8	9 57 30.53	13 51 45.5	5.19	2.76	.695 0172	16 52 05
9	9 59 33.81	13 39 46.9	5.16	2.75	.703 0612	16 50 12
10	10 01 37.33	13 27 43.0	5.14	2.74	.711 0643	16 48 20
11	10 03 41.09	13 15 33.7	5.12	2.72	.719 0261	16 46 27
12	10 05 45.08	+13 03 19.1	5.09	2.71	1.726 9461	16 44 35
13	10 07 49.30	12 50 59.3	5.07	2.70	.734 8238	16 42 43
14	10 09 53.73	12 38 34.2	5.05	2.69	.742 6590	16 40 51
15	10 11 58.38	12 26 04.1	5.02	2.67	.750 4513	16 38 59
16	10 14 03.23	12 13 28.9	5.00	2.66	.758 2007	16 37 08
17	10 16 08.29	+12 00 48.6	4.98	2.65	1.765 9067	16 35 17
18	10 18 13.54	11 48 03.4	4.96	2.64	.773 5697	16 33 26
19	10 20 18.99	11 35 13.3	4.94	2.63	.781 1896	16 31 35
20	10 22 24.63	11 22 18.3	4.92	2.62	.788 7663	16 29 44
21	10 24 30.45	11 09 18.5	4.90	2.61	.796 3003	16 27 54
22	10 26 36.47	+10 56 14.1	4.88	2.59	1.803 7916	16 26 03
23	10 28 42.66	10 43 04.9	4.86	2.58	.811 2403	16 24 13
24	10 30 49.03	10 29 51.2	4.84	2.57	.818 6463	16 22 23
25	10 32 55.59	10 16 32.8	4.82	2.56	.826 0096	16 20 34
26	10 35 02.33	10 03 09.9	4.80	2.55	.833 3300	16 18 44
27	10 37 09.26	+ 9 49 42.6	4.78	2.54	1.840 6073	16 16 55
28	10 39 16.38	9 36 10.7	4.76	2.53	.847 8411	16 15 06
29	10 41 23.69	9 22 34.5	4.74	2.52	.855 0309	16 13 17
30	10 43 31.19	9 08 54.0	4.72	2.51	.862 1763	16 11 28
JULY 1	10 45 38.89	8 55 09.1	4.70	2.50	.869 2767	16 09 39
2	10 47 46.78	+ 8 41 20.1	4.69	2.49	1.876 3318	16 07 51

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
	H	M	S	O	I	II	II	II	AU	H M S
JULY	3	10 49	54.87	+	8 27	26.9	4.67	2.48	1.883 3411	16 06 03
	4	10 52	03.15		8 13	29.6	4.65	2.48	.890 3040	16 04 15
	5	10 54	11.62		7 59	28.3	4.64	2.47	.897 2201	16 02 27
	6	10 56	20.28		7 45	23.0	4.62	2.46	.904 0890	16 00 39
	7	10 58	29.13		7 31	14.0	4.60	2.45	.910 9104	15 58 52
	8	11 00	38.17	+	7 17	01.1	4.59	2.44	1.917 6838	15 57 05
	9	11 02	47.40		7 02	44.6	4.57	2.43	.924 4090	15 55 17
	10	11 04	56.82		6 48	24.4	4.55	2.42	.931 0855	15 53 31
	11	11 07	06.42		6 34	00.7	4.54	2.42	.937 7133	15 51 44
	12	11 09	16.21		6 19	33.5	4.52	2.41	.944 2922	15 49 57
	13	11 11	26.19	+	6 05	02.9	4.51	2.40	1.950 8218	15 48 11
	14	11 13	36.35		5 50	28.9	4.49	2.39	.957 3024	15 46 25
	15	11 15	46.70		5 35	51.8	4.48	2.38	.963 7337	15 44 39
	16	11 17	57.25		5 21	11.4	4.46	2.38	.970 1161	15 42 53
	17	11 20	07.98		5 06	28.0	4.45	2.37	.976 4496	15 41 08
	18	11 22	18.91	+	4 51	41.6	4.44	2.36	1.982 7344	15 39 22
	19	11 24	30.02		4 36	52.2	4.42	2.35	.988 9709	15 37 37
	20	11 26	41.33		4 22	00.1	4.41	2.35	1.995 1593	15 35 52
AUG.	21	11 28	52.84		4 07	05.1	4.39	2.34	2.001 3002	15 34 07
	22	11 31	04.54		3 52	07.5	4.38	2.33	.007 3935	15 32 23
	23	11 33	16.45	+	3 37	07.2	4.37	2.32	2.013 4395	15 30 38
	24	11 35	28.58		3 22	04.4	4.35	2.32	.019 4381	15 28 54
	25	11 37	40.92		3 06	59.1	4.34	2.31	.025 3892	15 27 10
	26	11 39	53.48		2 51	51.4	4.33	2.30	.031 2928	15 25 26
	27	11 42	06.28		2 36	41.2	4.32	2.30	.037 1487	15 23 43
	28	11 44	19.32	+	2 21	28.8	4.30	2.29	2.042 9563	15 22 00
	29	11 46	32.59		2 06	14.2	4.29	2.28	.048 7156	15 20 17
	30	11 48	46.11		1 50	57.4	4.28	2.28	.054 4260	15 18 34
	31	11 50	59.89		1 35	38.6	4.27	2.27	.060 0875	15 16 51
	1	11 53	13.91		1 20	17.8	4.26	2.27	.065 6996	15 15 09
	2	11 55	28.19	+	1 04	55.1	4.25	2.26	2.071 2619	15 13 27
	3	11 57	42.73		0 49	30.7	4.23	2.25	.076 7742	15 11 46
	4	11 59	57.53		0 34	04.5	4.22	2.25	.082 2363	15 10 04
	5	12 02	12.59		0 18	36.8	4.21	2.24	.087 6479	15 08 23
	6	12 04	27.93	+	0 03	07.6	4.20	2.24	.093 0089	15 06 42
	7	12 06	43.53	-	0 12	23.0	4.19	2.23	2.098 3189	15 05 01
	8	12 08	59.41		0 27	54.9	4.18	2.22	.103 5778	15 03 21
	9	12 11	15.57		0 43	28.1	4.17	2.22	.108 7857	15 01 41
	10	12 13	32.01		0 59	02.3	4.16	2.21	.113 9423	15 00 01
	11	12 15	48.74		1 14	37.6	4.15	2.21	.119 0478	14 58 21
	12	12 18	05.75	-	1 30	13.7	4.14	2.20	2.124 1023	14 56 42
	13	12 20	23.06		1 45	50.7	4.13	2.20	.129 1060	14 55 03
	14	12 22	40.66		2 01	28.4	4.12	2.19	.134 0590	14 53 25
	15	12 24	58.57		2 17	06.8	4.11	2.19	.138 9619	14 51 46
	16	12 27	16.78		2 32	45.6	4.10	2.18	.143 8148	14 50 08
	17	12 29	35.29	-	2 48	24.8	4.09	2.18	2.148 6184	14 48 30
	18	12 31	54.12		3 04	04.3	4.08	2.17	.153 3729	14 46 53
	19	12 34	13.26		3 19	43.9	4.07	2.17	.158 0789	14 45 16
	20	12 36	32.73		3 35	23.7	4.07	2.16	.162 7366	14 43 39
	21	12 38	52.53		3 51	03.5	4.06	2.16	.167 3460	14 42 03
	22	12 41	12.68	-	4 06	43.2	4.05	2.15	2.171 9076	14 40 27
	23	12 43	33.18		4 22	22.8	4.04	2.15	.176 4211	14 38 51
	24	12 45	54.05		4 38	02.1	4.03	2.15	.180 8867	14 37 16
	25	12 48	15.28		4 53	41.0	4.02	2.14	.185 3041	14 35 41
	26	12 50	36.89		5 09	19.5	4.02	2.14	.189 6730	14 34 06
	27	12 52	58.88	-	5 24	57.5	4.01	2.13	2.193 9933	14 32 32
	28	12 55	21.26		5 40	34.8	4.00	2.13	.198 2649	14 30 58
	29	12 57	44.03		5 56	11.3	3.99	2.12	.202 4876	14 29 24
	30	13 00	07.20		6 11	46.9	3.99	2.12	.206 6612	14 27 51
	31	13 02	30.78		6 27	21.4	3.98	2.12	.210 7853	14 26 19
SEPT. 1	13 04	54.76	-	6 42	54.9		3.97	2.11	2.214 8601	14 24 47

DATE	APPT. R.A.	APPT. DEC.	H.P.	S.D.	T.D.	C.F.
	H M S	O ° ' "	' "	' "	AU	H M S
SEPT. 2	13 07 19.16	- 6 58 27.1	3.90	2.11	2.218 8852	14 23 15
3	13 09 43.97	7 13 57.9	3.96	2.11	.222 8604	14 21 43
4	13 12 09.22	7 29 27.2	3.95	2.10	.226 7858	14 20 12
5	13 14 34.89	7 44 54.9	3.94	2.10	.230 6612	14 18 42
6	13 17 01.00	8 00 20.9	3.94	2.09	.234 4864	14 17 12
7	13 19 27.55	- 8 15 45.0	3.93	2.09	2.238 2619	14 15 42
8	13 21 54.54	8 31 07.1	3.92	2.09	.241 9875	14 14 13
9	13 24 21.99	8 46 27.1	3.92	2.08	.245 6633	14 12 44
10	13 26 49.89	9 01 44.9	3.91	2.08	.249 2897	14 11 16
11	13 29 18.24	9 17 00.2	3.90	2.08	.252 8672	14 09 48
12	13 31 47.06	- 9 32 13.1	3.90	2.07	2.256 3959	14 08 21
13	13 34 16.35	9 47 23.2	3.89	2.07	.259 8764	14 06 54
14	13 36 46.10	10 02 30.6	3.89	2.07	.263 3091	14 05 27
15	13 39 16.33	10 17 35.0	3.88	2.06	.266 6948	14 04 01
16	13 41 47.04	10 32 36.4	3.87	2.06	.270 0336	14 02 36
17	13 44 18.25	-10 47 34.5	3.87	2.06	2.273 3263	14 01 11
18	13 46 49.95	11 02 29.3	3.86	2.06	.276 5729	13 59 47
19	13 49 22.17	11 17 20.7	3.86	2.05	.279 7740	13 58 23
20	13 51 54.90	11 32 08.5	3.85	2.05	.282 9297	13 56 59
21	13 54 28.16	11 46 52.6	3.85	2.05	.286 0401	13 55 36
22	13 57 01.96	-12 01 32.8	3.84	2.04	2.289 1051	13 54 14
23	13 59 36.29	12 16 09.1	3.84	2.04	.292 1248	13 52 52
24	14 02 11.18	12 30 41.4	3.83	2.04	.295 0992	13 51 31
25	14 04 46.61	12 45 09.3	3.83	2.04	.298 0280	13 50 10
26	14 07 22.60	12 59 32.9	3.82	2.03	.300 9113	13 48 50
27	14 09 59.16	-13 13 51.9	3.82	2.03	2.303 7489	13 47 30
28	14 12 36.29	13 28 06.3	3.81	2.03	.306 5410	13 46 11
29	14 15 13.98	13 42 15.8	3.81	2.03	.309 2871	13 44 53
30	14 17 52.26	13 56 20.3	3.80	2.02	.311 9876	13 43 35
OCT. 1	14 20 31.12	14 10 19.6	3.80	2.02	.314 6420	13 42 18
2	14 23 10.56	-14 24 13.7	3.80	2.02	2.317 2505	13 41 01
3	14 25 50.60	14 38 02.3	3.79	2.02	.319 8129	13 39 45
4	14 28 31.24	14 51 45.3	3.79	2.02	.322 3293	13 38 29
5	14 31 12.47	15 05 22.5	3.78	2.01	.324 7998	13 37 14
6	14 33 54.31	15 18 53.7	3.78	2.01	.327 2246	13 36 00
7	14 36 36.75	-15 32 18.9	3.77	2.01	2.329 6038	13 34 46
8	14 39 19.79	15 45 37.8	3.77	2.01	.331 9378	13 33 33
9	14 42 03.44	15 58 50.3	3.77	2.00	.334 2272	13 32 21
10	14 44 47.70	16 11 56.2	3.76	2.00	.336 4721	13 31 09
11	14 47 32.56	16 24 55.3	3.76	2.00	.338 6733	13 29 58
12	14 50 18.04	-16 37 47.5	3.76	2.00	2.340 8314	13 28 47
13	14 53 04.13	16 50 32.5	3.75	2.00	.342 9467	13 27 37
14	14 55 50.84	17 03 10.2	3.75	2.00	.345 0201	13 26 27
15	14 58 38.17	17 15 40.5	3.75	1.99	.347 0520	13 25 19
16	15 01 26.14	17 28 03.2	3.74	1.99	.349 0427	13 24 10
17	15 04 14.73	-17 40 18.1	3.74	1.99	2.350 9930	13 23 03
18	15 07 03.97	17 52 25.0	3.74	1.99	.352 9031	13 21 56
19	15 09 53.85	18 04 23.9	3.73	1.99	.354 7731	13 20 50
20	15 12 44.37	18 16 14.6	3.73	1.99	.356 6035	13 19 44
21	15 15 35.55	18 27 56.8	3.73	1.98	.358 3941	13 18 39
22	15 18 27.37	-18 39 30.5	3.73	1.98	2.360 1452	13 17 35
23	15 21 19.84	18 50 55.4	3.72	1.98	.361 8567	13 16 31
24	15 24 12.97	19 02 11.4	3.72	1.98	.363 5288	13 15 28
25	15 27 06.75	19 13 18.3	3.72	1.98	.365 1614	13 14 26
26	15 30 01.18	19 24 16.0	3.72	1.98	.366 7546	13 13 24
27	15 32 56.27	-19 35 04.2	3.71	1.98	2.368 3085	13 12 23
28	15 35 52.00	19 45 42.8	3.71	1.97	.369 8230	13 11 23
29	15 38 48.39	19 56 11.6	3.71	1.97	.371 2981	13 10 23
30	15 41 45.44	20 06 30.4	3.71	1.97	.372 7337	13 09 24
31	15 44 43.13	20 16 39.1	3.70	1.97	.374 1300	13 08 25
NOV. 1	15 47 41.47	-20 26 37.5	3.70	1.97	2.375 4870	13 07 27

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
		H	M	S	O	°	'	'	'	AU	H M S
NOV.	2	15	50	40.46	-20	36	25.5	3.70	1.97	2.376 8045	13 06 30
	3	15	53	40.08	20	46	02.8	3.70	1.97	.378 0831	13 05 34
	4	15	56	40.35	20	55	29.3	3.70	1.97	.379 3229	13 04 38
	5	15	59	41.23	21	04	44.8	3.69	1.97	.380 5241	13 03 43
	6	16	02	42.74	21	13	49.1	3.69	1.96	.381 6874	13 02 48
	7	16	05	44.86	-21	22	42.1	3.69	1.96	2.382 8133	13 01 54
	8	16	08	47.60	21	31	23.6	3.69	1.96	.383 9023	13 01 00
	9	16	11	50.93	21	39	53.4	3.69	1.96	.384 9550	13 00 07
	10	16	14	54.86	21	48	11.4	3.69	1.96	.385 9722	12 59 15
	11	16	17	59.38	21	56	17.2	3.68	1.96	.386 9545	12 58 23
	12	16	21	04.50	-22	04	11.0	3.68	1.96	2.387 9024	12 57 32
	13	16	24	10.20	22	11	52.3	3.68	1.96	.388 8165	12 56 42
	14	16	27	16.48	22	19	21.2	3.68	1.96	.389 6975	12 55 52
	15	16	30	23.34	22	26	37.3	3.68	1.96	.390 5458	12 55 03
	16	16	33	30.77	22	33	40.8	3.68	1.96	.391 3617	12 54 14
	17	16	36	38.77	-22	40	31.2	3.68	1.96	2.392 1457	12 53 26
	18	16	39	47.33	22	47	08.6	3.68	1.96	.392 8980	12 52 38
	19	16	42	56.43	22	53	32.7	3.67	1.96	.393 6187	12 51 51
	20	16	46	06.08	22	59	43.4	3.67	1.95	.394 3081	12 51 04
	21	16	49	16.27	23	05	40.6	3.67	1.95	.394 9662	12 50 18
	22	16	52	26.98	-23	11	24.1	3.67	1.95	2.395 5933	12 49 33
	23	16	55	38.21	23	16	53.8	3.67	1.95	.396 1894	12 48 48
	24	16	58	49.94	23	22	09.6	3.67	1.95	.396 7548	12 48 03
	25	17	02	02.17	23	27	11.2	3.67	1.95	.397 2893	12 47 19
	26	17	05	14.89	23	31	58.6	3.67	1.95	.397 7932	12 46 35
	27	17	08	28.09	-23	36	31.7	3.67	1.95	2.398 2664	12 45 52
	28	17	11	41.75	23	40	50.3	3.67	1.95	.398 7091	12 45 10
	29	17	14	55.87	23	44	54.3	3.67	1.95	.399 1210	12 44 28
	30	17	18	10.42	23	48	43.6	3.66	1.95	.399 5025	12 43 46
	DEC. 1	17	21	25.41	23	52	18.0	3.66	1.95	.399 8538	12 43 04
	2	17	24	40.80	-23	55	37.6	3.66	1.95	2.400 1747	12 42 23
	3	17	27	56.59	23	58	42.1	3.66	1.95	.400 4660	12 41 43
	4	17	31	12.75	24	01	31.6	3.66	1.95	.400 7279	12 41 03
	5	17	34	29.26	24	04	05.7	3.66	1.95	.400 9610	12 40 23
	6	17	37	46.12	24	06	24.5	3.66	1.95	.401 1660	12 39 43
	7	17	41	03.31	-24	08	27.9	3.66	1.95	2.401 3434	12 39 04
	8	17	44	20.81	24	10	15.8	3.66	1.95	.401 4939	12 38 25
	9	17	47	38.61	24	11	48.0	3.66	1.95	.401 6184	12 37 47
	10	17	50	56.69	24	13	04.5	3.66	1.95	.401 7175	12 37 08
	11	17	54	15.05	24	14	05.3	3.66	1.95	.401 7916	12 36 30
	12	17	57	33.67	-24	14	50.2	3.66	1.95	2.401 8415	12 35 53
	13	18	00	52.53	24	15	19.3	3.66	1.95	.401 8676	12 35 15
	14	18	04	11.62	24	15	32.4	3.66	1.95	.401 8706	12 34 38
	15	18	07	30.93	24	15	29.6	3.66	1.95	.401 8507	12 34 01
	16	18	10	50.44	24	15	10.7	3.66	1.95	.401 8084	12 33 24
	17	18	14	10.14	-24	14	35.7	3.66	1.95	2.401 7439	12 32 47
	18	18	17	30.01	24	13	44.7	3.66	1.95	.401 6574	12 32 10
	19	18	20	50.03	24	12	37.4	3.66	1.95	.401 5493	12 31 34
	20	18	24	10.19	24	11	14.0	3.66	1.95	.401 4197	12 30 58
	21	18	27	30.48	24	09	34.4	3.66	1.95	.401 2690	12 30 21
	22	18	30	50.88	-24	07	38.6	3.66	1.95	2.401 0969	12 29 45
	23	18	34	11.38	24	05	26.6	3.66	1.95	.400 9039	12 29 09
	24	18	37	31.95	24	02	58.3	3.66	1.95	.400 6899	12 28 33
	25	18	40	52.60	24	00	13.7	3.66	1.95	.400 4549	12 27 57
	26	18	44	13.29	23	57	12.9	3.66	1.95	.400 1990	12 27 22
	27	18	47	34.02	-23	53	55.9	3.66	1.95	2.399 9223	12 26 46
	28	18	50	54.76	23	50	22.7	3.66	1.95	.399 6247	12 26 10
	29	18	54	15.51	23	46	33.3	3.67	1.95	.399 3064	12 25 34
	30	18	57	36.24	23	42	27.8	3.67	1.95	.398 9674	12 24 58
	31	19	00	56.92	23	38	06.2	3.67	1.95	.398 6080	12 24 23

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		H	M	S	O ° ' "			"	"	AU		H	M	S
JAN.	1	19	04	17.55	-23	33	28.6	3.67	1.95	2.398	2285	12	23	47
	2	19	07	38.10	23	28	34.9	3.67	1.95	.397	8296	12	23	11
	3	19	10	58.56	23	23	25.3	3.67	1.95	.397	4115	12	22	34
	4	19	14	18.90	23	17	59.7	3.67	1.95	.396	9750	12	21	58
	5	19	17	39.12	23	12	18.2	3.67	1.95	.396	5208	12	21	22
	6	19	20	59.20	-23	06	20.9	3.67	1.95	2.396	0495	12	20	45
	7	19	24	19.13	23	00	07.8	3.67	1.95	.395	5617	12	20	08
	8	19	27	38.90	22	53	39.1	3.67	1.95	.395	0582	12	19	32
	9	19	30	58.49	22	46	54.8	3.67	1.95	.394	5393	12	18	55
	10	19	34	17.89	22	39	55.0	3.67	1.95	.394	0056	12	18	17
11	19	37	37.09	-22	32	39.7	3.67	1.96	2.393	4579	12	17	40	
12	19	40	56.08	22	25	09.1	3.68	1.96	.392	8962	12	17	02	
13	19	44	14.84	22	17	23.3	3.68	1.96	.392	3211	12	16	24	
14	19	47	33.36	22	09	22.4	3.68	1.96	.391	7329	12	15	46	
15	19	50	51.64	22	01	06.4	3.68	1.96	.391	1320	12	15	08	
16	19	54	09.66	-21	52	35.5	3.68	1.96	2.390	5183	12	14	29	
17	19	57	27.41	21	43	49.8	3.68	1.96	.389	8924	12	13	50	
18	20	00	44.89	21	34	49.4	3.68	1.96	.389	2541	12	13	11	
19	20	04	02.08	21	25	34.4	3.68	1.96	.388	6037	12	12	32	
20	20	07	18.98	21	16	04.9	3.68	1.96	.387	9413	12	11	52	
21	20	10	35.57	-21	06	21.1	3.68	1.96	2.387	2669	12	11	12	
22	20	13	51.86	20	56	23.1	3.68	1.96	.386	5806	12	10	31	
23	20	17	07.83	20	46	11.0	3.69	1.96	.385	8823	12	09	51	
24	20	20	23.48	20	35	45.1	3.69	1.96	.385	1717	12	09	09	
25	20	23	38.79	20	25	05.3	3.69	1.96	.384	4491	12	08	28	
26	20	26	53.76	-20	14	11.9	3.69	1.96	2.383	7142	12	07	46	
27	20	30	08.38	20	03	05.2	3.69	1.96	.382	9670	12	07	04	
28	20	33	22.63	19	51	45.1	3.69	1.96	.382	2078	12	06	22	
29	20	36	36.51	19	40	11.9	3.69	1.97	.381	4365	12	05	39	
30	20	39	50.00	19	28	25.8	3.69	1.97	.380	6534	12	04	56	
FEB.	31	20	43	03.11	-19	16	26.9	3.70	1.97	2.379	8591	12	04	12
	1	20	46	15.81	19	04	15.4	3.70	1.97	.379	0538	12	03	28
	2	20	49	28.11	18	51	51.5	3.70	1.97	.378	2382	12	02	44
	3	20	52	40.01	18	39	15.2	3.70	1.97	.377	4129	12	01	59
	4	20	55	51.49	18	26	26.9	3.70	1.97	.376	5783	12	01	13
	5	20	59	02.57	-18	13	26.7	3.70	1.97	2.375	7350	12	00	28
	6	21	02	13.22	18	00	14.7	3.70	1.97	.374	8835	11	59	42
	7	21	05	23.46	17	46	51.1	3.70	1.97	.374	0243	11	58	55
	8	21	08	33.28	17	33	16.2	3.71	1.97	.373	1577	11	58	08
	9	21	11	42.67	17	19	30.1	3.71	1.97	.372	2841	11	57	21
10	21	14	51.64	-17	05	33.0	3.71	1.97	2.371	4037	11	56	33	
11	21	18	00.19	16	51	25.1	3.71	1.97	.370	5171	11	55	45	
12	21	21	08.31	16	37	06.5	3.71	1.97	.369	6242	11	54	56	
13	21	24	16.01	16	22	37.5	3.71	1.98	.368	7252	11	54	07	
14	21	27	23.29	16	07	58.3	3.71	1.98	.367	8204	11	53	18	
15	21	30	30.14	-15	53	09.0	3.72	1.98	2.366	9098	11	52	28	
16	21	33	36.58	15	38	09.8	3.72	1.98	.365	9934	11	51	38	
17	21	36	42.61	15	23	00.9	3.72	1.98	.365	0714	11	50	47	
18	21	39	48.22	15	07	42.6	3.72	1.98	.364	1433	11	49	56	
19	21	42	53.42	14	52	14.9	3.72	1.98	.363	2095	11	49	04	
20	21	45	58.21	-14	36	38.1	3.72	1.98	2.362	2695	11	48	12	
21	21	49	02.60	14	20	52.4	3.72	1.98	.361	3232	11	47	20	
22	21	52	06.59	14	04	58.1	3.73	1.98	.360	3703	11	46	27	
23	21	55	10.17	13	48	55.3	3.73	1.98	.359	4109	11	45	34	
24	21	58	13.36	13	32	44.2	3.73	1.98	.358	4444	11	44	41	
25	22	01	16.14	-13	16	25.1	3.73	1.99	2.357	4708	11	43	47	
26	22	04	18.51	12	59	58.1	3.73	1.99	.356	4901	11	42	52	
27	22	07	20.49	12	43	23.6	3.73	1.99	.355	5022	11	41	58	
28	22	10	22.07	12	26	41.6	3.73	1.99	.354	5073	11	41	03	
MAR.	1	22	13	23.25	12	09	52.4	3.74	1.99	.353	5056	11	40	07
	2	22	16	24.04	-11	52	56.3	3.74	1.99	2.352	4974	11	39	11

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		H	M	S	O	'	"	"	"	AU		H	M	S
MAR.	3	22	19	24.45	-11	35	53.3	3.74	1.99	2.351	4831	11	38	15
	4	22	22	24.47	11	18	43.8	3.74	1.99	.350	4631	11	37	18
	5	22	25	24.11	11	01	28.0	3.74	1.99	.349	4377	11	36	21
	6	22	28	23.38	10	44	05.9	3.74	1.99	.348	4075	11	35	24
	7	22	31	22.28	10	26	38.0	3.75	1.99	.347	3725	11	34	26
	8	22	34	20.81	-10	09	04.3	3.75	1.99	2.346	3332	11	33	28
	9	22	37	18.99	9	51	25.0	3.75	2.00	.345	2896	11	32	29
	10	22	40	16.82	9	33	40.5	3.75	2.00	.344	2420	11	31	30
	11	22	43	14.30	9	15	50.8	3.75	2.00	.343	1906	11	30	31
	12	22	46	11.45	8	57	56.2	3.75	2.00	.342	1354	11	29	32
	13	22	49	08.27	-8	39	56.9	3.76	2.00	2.341	0766	11	28	32
	14	22	52	04.77	8	21	53.1	3.76	2.00	.340	0142	11	27	32
	15	22	55	00.95	8	03	44.9	3.76	2.00	.338	9482	11	26	31
	16	22	57	56.83	7	45	32.6	3.76	2.00	.337	8785	11	25	30
	17	23	00	52.42	7	27	16.3	3.76	2.00	.336	8049	11	24	29
	18	23	03	47.72	-7	08	56.3	3.76	2.00	2.335	7273	11	23	28
	19	23	06	42.75	6	50	32.7	3.77	2.00	.334	6454	11	22	26
	20	23	09	37.50	6	32	05.8	3.77	2.01	.333	5589	11	21	25
	21	23	12	32.00	6	13	35.8	3.77	2.01	.332	4674	11	20	22
	22	23	15	26.24	5	55	02.8	3.77	2.01	.331	3707	11	19	20
	23	23	18	20.24	-5	36	27.0	3.77	2.01	2.330	2680	11	18	17
	24	23	21	13.99	5	17	48.8	3.78	2.01	.329	1593	11	17	15
	25	23	24	07.50	4	59	08.2	3.78	2.01	.328	0441	11	16	11
	26	23	27	00.78	4	40	25.5	3.78	2.01	.326	9219	11	15	08
	27	23	29	53.84	4	21	41.0	3.78	2.01	.325	7927	11	14	05
	28	23	32	46.68	-4	02	54.7	3.78	2.01	2.324	6563	11	13	01
	29	23	35	39.30	3	44	07.0	3.78	2.01	.323	5127	11	11	57
	30	23	38	31.72	3	25	17.9	3.79	2.02	.322	3617	11	10	53
	31	23	41	23.94	3	06	27.7	3.79	2.02	.321	2038	11	09	48
	APR. 1	23	44	15.97	2	47	36.7	3.79	2.02	.320	0388	11	08	44
	2	23	47	07.82	-2	28	44.9	3.79	2.02	2.318	8672	11	07	39
	3	23	49	59.48	2	09	52.7	3.79	2.02	.317	6891	11	06	34
	4	23	52	50.98	1	51	00.2	3.80	2.02	.316	5047	11	05	29
	5	23	55	42.31	1	32	07.5	3.80	2.02	.315	3139	11	04	24
	6	23	58	33.48	1	13	15.0	3.80	2.02	.314	1170	11	03	18
	7	0	01	24.51	-0	54	22.7	3.80	2.02	2.312	9140	11	02	13
	8	0	04	15.40	0	35	30.9	3.80	2.02	.311	7049	11	01	07
	9	0	07	06.16	-0	16	39.7	3.81	2.03	.310	4896	11	00	01
	10	0	09	56.81	+0	02	10.7	3.81	2.03	.309	2684	10	58	55
	11	0	12	47.34	0	21	00.0	3.81	2.03	.308	0410	10	57	49
	12	0	15	37.77	+0	39	48.2	3.81	2.03	2.306	8071	10	56	43
	13	0	18	28.11	0	58	35.0	3.81	2.03	.305	5669	10	55	37
	14	0	21	18.37	1	17	20.3	3.82	2.03	.304	3199	10	54	31
	15	0	24	08.56	1	36	03.9	3.82	2.03	.303	0660	10	53	24
	16	0	26	58.69	1	54	45.6	3.82	2.03	.301	8046	10	52	18
	17	0	29	48.77	+2	13	25.3	3.82	2.03	2.300	5352	10	51	12
	18	0	32	38.80	2	32	02.7	3.82	2.04	.299	2575	10	50	05
	19	0	35	28.80	2	50	37.8	3.83	2.04	.297	9710	10	48	59
	20	0	38	18.77	3	09	10.2	3.83	2.04	.296	6749	10	47	52
	21	0	41	08.71	3	27	39.9	3.83	2.04	.295	3689	10	46	45
	22	0	43	58.63	+3	46	06.7	3.83	2.04	2.294	0522	10	45	39
	23	0	46	48.54	4	04	30.2	3.84	2.04	.292	7245	10	44	32
	24	0	49	38.44	4	22	50.5	3.84	2.04	.291	3852	10	43	26
	25	0	52	28.35	4	41	07.2	3.84	2.04	.290	0340	10	42	19
	26	0	55	18.26	4	59	20.3	3.84	2.04	.288	6707	10	41	13
	27	0	58	08.17	+5	17	29.5	3.84	2.05	2.287	2949	10	40	06
	28	1	00	58.11	5	35	34.7	3.85	2.05	.285	9067	10	38	59
	29	1	03	48.07	5	53	35.8	3.85	2.05	.284	5060	10	37	53
	30	1	06	38.05	6	11	32.4	3.85	2.05	.283	0927	10	36	46
MAY	1	1	09	28.07	6	29	24.4	3.85	2.05	.281	6670	10	35	40
	2	1	12	18.12	+6	47	11.8	3.86	2.05	2.280	2288	10	34	33

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.O.		E.T.				
	H	M	S	°	'	"			"	"	AU	H	M	S	
MAY	3	1	15	08.21	+	7	04	54.2	3.86	2.05	2.278	7781	10	33	27
	4	1	17	58.35		7	22	31.6	3.86	2.06	.277	3151	10	32	21
	5	1	20	48.54		7	40	03.7	3.86	2.06	.275	8395	10	31	14
	6	1	23	38.80		7	57	30.4	3.87	2.06	.274	3513	10	30	08
	7	1	26	29.12		8	14	51.6	3.87	2.06	.272	8504	10	29	02
	8	1	29	19.51	+	8	32	07.1	3.87	2.06	2.271	3367	10	27	56
	9	1	32	09.99		8	49	16.7	3.87	2.06	.269	8100	10	26	50
	10	1	35	00.56		9	06	20.4	3.88	2.06	.268	2702	10	25	44
	11	1	37	51.22		9	23	17.8	3.88	2.06	.266	7171	10	24	38
	12	1	40	41.99		9	40	09.0	3.88	2.07	.265	1505	10	23	33
	13	1	43	32.87	+	9	56	53.8	3.89	2.07	2.263	5698	10	22	27
	14	1	46	23.87		10	13	32.0	3.89	2.07	.261	9748	10	21	22
15	1	49	14.99		10	30	03.5	3.89	2.07	.260	3647	10	20	16	
16	1	52	06.23		10	46	28.1	3.89	2.07	.258	7391	10	19	11	
17	1	54	57.61		11	02	45.7	3.90	2.07	.257	0973	10	18	06	
18	1	57	49.12	+	11	18	56.1	3.90	2.07	2.255	4386	10	17	01	
19	2	00	40.77		11	34	59.2	3.90	2.08	.253	7623	10	15	56	
20	2	03	32.57		11	50	54.8	3.90	2.08	.252	0678	10	14	52	
21	2	06	24.50		12	06	42.8	3.91	2.08	.250	3544	10	13	47	
22	2	09	16.58		12	22	23.0	3.91	2.08	.248	6217	10	12	43	
23	2	12	08.81	+	12	37	55.3	3.91	2.08	2.246	8691	10	11	38	
24	2	15	01.19		12	53	19.6	3.92	2.08	.245	0960	10	10	34	
25	2	17	53.73		13	08	35.7	3.92	2.09	.243	3022	10	09	31	
26	2	20	46.41		13	23	43.5	3.92	2.09	.241	4875	10	08	27	
27	2	23	39.25		13	38	42.8	3.93	2.09	.239	6515	10	07	23	
28	2	26	32.24	+	13	53	33.5	3.93	2.09	2.237	7942	10	06	20	
29	2	29	25.38		14	08	15.4	3.93	2.09	.235	9155	10	05	16	
30	2	32	18.67		14	22	48.4	3.94	2.09	.234	0153	10	04	13	
31	2	35	12.11		14	37	12.4	3.94	2.10	.232	0935	10	03	10	
JUNE	1	2	38	05.71		14	51	27.3	3.94	2.10	.230	1500	10	02	07
	2	2	40	59.46	+	15	05	32.8	3.95	2.10	2.228	1847	10	01	05
	3	2	43	53.36		15	19	29.0	3.95	2.10	.226	1975	10	00	02
	4	2	46	47.42		15	33	15.6	3.95	2.10	.224	1884	9	59	00
	5	2	49	41.63		15	46	52.5	3.96	2.11	.222	1571	9	57	58
	6	2	52	36.00		16	00	19.7	3.96	2.11	.220	1034	9	56	55
	7	2	55	30.54	+	16	13	37.0	3.96	2.11	2.218	0273	9	55	54
	8	2	58	25.24		16	26	44.4	3.97	2.11	.215	9284	9	54	52
	9	3	01	20.10		16	39	41.7	3.97	2.11	.213	8066	9	53	50
	10	3	04	15.13		16	52	28.8	3.98	2.12	.211	6616	9	52	49
	11	3	07	10.32		17	05	05.6	3.98	2.12	.209	4928	9	51	48
	12	3	10	05.68	+	17	17	32.0	3.98	2.12	2.207	2998	9	50	46
13	3	13	01.20		17	29	48.0	3.99	2.12	.205	0820	9	49	46	
14	3	15	56.89		17	41	53.4	3.99	2.12	.202	8386	9	48	45	
15	3	18	52.73		17	53	48.2	4.00	2.13	.200	5689	9	47	44	
16	3	21	48.74		18	05	32.1	4.00	2.13	.198	2723	9	46	44	
17	3	24	44.89	+	18	17	05.1	4.00	2.13	2.195	9479	9	45	43	
18	3	27	41.20		18	28	27.2	4.01	2.13	.193	5951	9	44	43	
19	3	30	37.66		18	39	38.2	4.01	2.14	.191	2133	9	43	43	
20	3	33	34.26		18	50	38.1	4.02	2.14	.188	8019	9	42	43	
21	3	36	31.01		19	01	26.7	4.02	2.14	.186	3603	9	41	44	
22	3	39	27.89	+	19	12	04.0	4.03	2.14	2.183	8882	9	40	44	
23	3	42	24.89		19	22	29.9	4.03	2.15	.181	3853	9	39	45	
24	3	45	22.01		19	32	44.2	4.04	2.15	.178	8512	9	38	45	
25	3	48	19.25		19	42	47.1	4.04	2.15	.176	2858	9	37	46	
26	3	51	16.59		19	52	38.2	4.05	2.15	.173	6887	9	36	47	
27	3	54	14.03	+	20	02	17.6	4.05	2.16	2.171	0600	9	35	48	
28	3	57	11.56		20	11	45.2	4.06	2.16	.168	3995	9	34	49	
29	4	00	09.17		20	21	00.9	4.06	2.16	.165	7072	9	33	50	
30	4	03	06.87		20	30	04.7	4.07	2.16	.162	9828	9	32	51	
JULY	1	4	06	04.63		20	38	56.4	4.07	2.17	.160	2263	9	31	53
	2	4	09	02.47	+	20	47	36.1	4.08	2.17	2.157	4377	9	30	54

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	O	°	'	''	''	AU		H	M	S
JULY	3	4	12	00.36	+20	56	03.6	4.08	2.17	2.154	6166	9	29	55
	4	4	14	58.31	21	04	19.0	4.09	2.17	.151	7632	9	28	57
	5	4	17	56.32	21	12	22.1	4.09	2.18	.148	8772	9	27	58
	6	4	20	54.37	21	20	13.0	4.10	2.18	.145	9584	9	27	00
	7	4	23	52.46	21	27	51.6	4.10	2.18	.143	0069	9	26	01
	8	4	26	50.59	+21	35	17.8	4.11	2.19	2.140	0223	9	25	03
	9	4	29	48.75	21	42	31.7	4.12	2.19	.137	0041	9	24	05
	10	4	32	46.93	21	49	33.2	4.12	2.19	.133	9522	9	23	06
	11	4	35	45.12	21	56	22.3	4.13	2.20	.130	8657	9	22	08
	12	4	38	43.33	22	02	59.0	4.13	2.20	.127	7443	9	21	10
	13	4	41	41.53	+22	09	23.2	4.14	2.20	2.124	5871	9	20	11
	14	4	44	39.73	22	15	34.9	4.15	2.21	.121	3935	9	19	13
	15	4	47	37.91	22	21	34.0	4.15	2.21	.118	1628	9	18	15
	16	4	50	36.07	22	27	20.6	4.16	2.21	.114	8943	9	17	16
	17	4	53	34.20	22	32	54.7	4.16	2.22	.111	5872	9	16	18
	18	4	56	32.28	+22	38	16.2	4.17	2.22	2.108	2410	9	15	20
	19	4	59	30.31	22	43	25.2	4.18	2.22	.104	8554	9	14	21
	20	5	02	28.28	22	48	21.6	4.18	2.23	.101	4298	9	13	22
	21	5	05	26.17	22	53	05.5	4.19	2.23	.097	9639	9	12	24
	22	5	08	23.97	22	57	36.8	4.20	2.23	.094	4573	9	11	25
	23	5	11	21.67	+23	01	55.6	4.21	2.24	2.090	9101	9	10	26
	24	5	14	19.25	23	06	01.8	4.21	2.24	.087	3218	9	09	27
	25	5	17	16.70	23	09	55.5	4.22	2.25	.083	6925	9	08	28
	26	5	20	14.02	23	13	36.6	4.23	2.25	.080	0221	9	07	29
	27	5	23	11.18	23	17	05.3	4.24	2.25	.076	3102	9	06	29
	28	5	26	08.19	+23	20	21.4	4.24	2.26	2.072	5571	9	05	30
	29	5	29	05.02	23	23	25.0	4.25	2.26	.068	7628	9	04	30
	30	5	32	01.67	23	26	16.2	4.26	2.27	.064	9270	9	03	30
	31	5	34	58.13	23	28	55.0	4.27	2.27	.061	0499	9	02	30
AUG.	1	5	37	54.40	23	31	21.4	4.27	2.28	.057	1313	9	01	30
	2	5	40	50.45	+23	33	35.5	4.28	2.28	2.053	1712	9	00	29
	3	5	43	46.29	23	35	37.2	4.29	2.28	.049	1697	8	59	28
	4	5	46	41.91	23	37	26.7	4.30	2.29	.045	1267	8	58	27
	5	5	49	37.29	23	39	04.0	4.31	2.29	.041	0421	8	57	26
	6	5	52	32.43	23	40	29.2	4.32	2.30	.036	9158	8	56	25
	7	5	55	27.31	+23	41	42.3	4.33	2.30	2.032	7474	8	55	23
	8	5	58	21.94	23	42	43.3	4.34	2.31	.028	5366	8	54	21
	9	6	01	16.30	23	43	32.4	4.34	2.31	.024	2829	8	53	19
	10	6	04	10.37	23	44	09.5	4.35	2.32	.019	9858	8	52	16
	11	6	07	04.17	23	44	34.8	4.36	2.32	.015	6446	8	51	13
	12	6	09	57.67	+23	44	48.4	4.37	2.33	2.011	2587	8	50	10
	13	6	12	50.86	23	44	50.1	4.38	2.33	.006	8276	8	49	07
	14	6	15	43.75	23	44	40.3	4.39	2.34	2.002	3504	8	48	03
	15	6	18	36.31	23	44	18.8	4.40	2.34	1.997	8269	8	46	59
	16	6	21	28.53	23	43	45.9	4.41	2.35	.993	2567	8	45	55
	17	6	24	20.41	+23	43	01.6	4.42	2.35	1.988	6392	8	44	50
	18	6	27	11.93	23	42	06.1	4.43	2.36	.983	9741	8	43	45
	19	6	30	03.07	23	40	59.3	4.44	2.36	.979	2616	8	42	39
	20	6	32	53.83	23	39	41.4	4.45	2.37	.974	5013	8	41	33
	21	6	35	44.18	23	38	12.4	4.46	2.38	.969	6931	8	40	27
	22	6	38	34.13	+23	36	32.6	4.48	2.38	1.964	8370	8	39	20
	23	6	41	23.66	23	34	41.8	4.49	2.39	.959	9330	8	38	13
	24	6	44	12.76	23	32	40.3	4.50	2.39	.954	9811	8	37	06
	25	6	47	01.41	23	30	28.2	4.51	2.40	.949	9814	8	35	58
	26	6	49	49.62	23	28	05.5	4.52	2.41	.944	9338	8	34	49
	27	6	52	37.37	+23	25	32.3	4.53	2.41	1.939	8386	8	33	40
	28	6	55	24.65	23	22	48.8	4.55	2.42	.934	6960	8	32	31
	29	6	58	11.46	23	19	55.1	4.56	2.43	.929	5061	8	31	21
	30	7	00	57.79	23	16	51.3	4.57	2.43	.924	2687	8	30	11
	31	7	03	43.63	23	13	37.4	4.58	2.44	.918	9844	8	29	00
SEPT.	1	7	06	28.98	+23	10	13.7	4.60	2.45	1.913	6532	8	27	49

DATE	APPT. R.A.	APPT. DEC.	H.P.	S.D.	T.D.	E.T.
	H M S	O ° ' "	" "	" "	AU	H M S
SEPT. 2	7 09 13.82	+23 06 40.2	4.61	2.45	1.908 2751	8 26 37
3	7 11 58.16	23 02 57.1	4.62	2.46	.902 8501	8 25 24
4	7 14 41.98	22 59 04.4	4.63	2.47	.897 3784	8 24 12
5	7 17 25.29	22 55 02.4	4.65	2.47	.891 8596	8 22 58
6	7 20 08.06	22 50 51.1	4.66	2.48	.886 2936	8 21 44
7	7 22 50.31	+22 46 30.6	4.68	2.49	1.880 6800	8 20 30
8	7 25 32.03	22 42 01.1	4.69	2.50	.875 0184	8 19 15
9	7 28 13.20	22 37 22.6	4.70	2.50	.869 3085	8 17 59
10	7 30 53.84	22 32 35.4	4.72	2.51	.863 5496	8 16 43
11	7 33 33.93	22 27 39.5	4.73	2.52	.857 7413	8 15 27
12	7 36 13.46	+22 22 35.2	4.75	2.53	1.851 8834	8 14 10
13	7 38 52.42	22 17 22.5	4.76	2.54	.845 9754	8 12 52
14	7 41 30.81	22 12 01.5	4.78	2.54	.840 0172	8 11 34
15	7 44 08.62	22 06 32.6	4.79	2.55	.834 0087	8 10 15
16	7 46 45.83	22 00 55.7	4.81	2.56	.827 9498	8 08 55
17	7 49 22.44	+21 55 11.1	4.83	2.57	1.821 8406	8 07 35
18	7 51 58.43	21 49 18.8	4.84	2.58	.815 6810	8 06 15
19	7 54 33.81	21 43 19.1	4.86	2.59	.809 4713	8 04 53
20	7 57 08.56	21 37 12.0	4.88	2.60	.803 2116	8 03 31
21	7 59 42.68	21 30 57.8	4.89	2.60	.796 9021	8 02 09
22	8 02 16.16	+21 24 36.5	4.91	2.61	1.790 5430	8 00 46
23	8 04 48.99	21 18 08.4	4.93	2.62	.784 1347	7 59 22
24	8 07 21.17	21 11 33.5	4.95	2.63	.777 6774	7 57 57
25	8 09 52.70	21 04 52.0	4.97	2.64	.771 1714	7 56 32
26	8 12 23.56	20 58 04.1	4.98	2.65	.764 6173	7 55 06
27	8 14 53.76	+20 51 09.9	5.00	2.66	1.758 0153	7 53 40
28	8 17 23.29	20 44 09.6	5.02	2.67	.751 3660	7 52 13
29	8 19 52.14	20 37 03.3	5.04	2.68	.744 6693	7 50 45
30	8 22 20.32	20 29 51.3	5.06	2.69	.737 9262	7 49 16
OCT. 1	8 24 47.81	20 22 33.6	5.08	2.70	.731 1367	7 47 47
2	8 27 14.62	+20 15 10.4	5.10	2.71	1.724 3011	7 46 17
3	8 29 40.74	20 07 41.9	5.12	2.73	.717 4194	7 44 47
4	8 32 06.17	20 00 08.1	5.14	2.74	.710 4919	7 43 15
5	8 34 30.92	19 52 29.3	5.16	2.75	.703 5184	7 41 43
6	8 36 54.97	19 44 45.7	5.18	2.76	.696 4989	7 40 11
7	8 39 18.33	+19 36 57.2	5.21	2.77	1.689 4333	7 38 37
8	8 41 41.00	19 29 04.2	5.23	2.78	.682 3212	7 37 03
9	8 44 02.97	19 21 06.8	5.25	2.79	.675 1626	7 35 29
10	8 46 24.23	19 13 05.1	5.27	2.81	.667 9574	7 33 53
11	8 48 44.78	19 04 59.4	5.30	2.82	.660 7053	7 32 17
12	8 51 04.62	+18 56 49.8	5.32	2.83	1.653 4065	7 30 40
13	8 53 23.72	18 48 36.5	5.34	2.84	.646 0612	7 29 03
14	8 55 42.10	18 40 19.7	5.37	2.86	.638 6695	7 27 25
15	8 57 59.72	18 31 59.5	5.39	2.87	.631 2314	7 25 46
16	9 00 16.60	18 23 36.1	5.42	2.88	.623 7478	7 24 06
17	9 02 32.72	+18 15 09.8	5.44	2.90	1.616 2186	7 22 25
18	9 04 48.07	18 06 40.6	5.47	2.91	.608 6445	7 20 44
19	9 07 02.65	17 58 08.8	5.49	2.92	.601 0258	7 19 02
20	9 09 16.46	17 49 34.5	5.52	2.94	.593 3632	7 17 19
21	9 11 29.48	17 40 57.9	5.55	2.95	.585 6574	7 15 35
22	9 13 41.71	+17 32 19.1	5.57	2.97	1.577 9088	7 13 51
23	9 15 53.14	17 23 38.4	5.60	2.98	.570 1181	7 12 06
24	9 18 03.77	17 14 56.0	5.63	3.00	.562 2861	7 10 20
25	9 20 13.59	17 06 11.9	5.66	3.01	.554 4135	7 08 33
26	9 22 22.60	16 57 26.5	5.69	3.03	.546 5012	7 06 45
27	9 24 30.78	+16 46 39.8	5.72	3.04	1.538 5499	7 04 57
28	9 26 38.14	16 39 52.1	5.75	3.06	.530 5602	7 03 07
29	9 28 44.68	16 31 03.4	5.78	3.07	.522 5331	7 01 17
30	9 30 50.37	16 22 14.1	5.81	3.09	.514 4690	6 59 26
31	9 32 55.22	16 13 24.3	5.84	3.11	.506 3684	6 57 34
NOV. 1	9 34 59.24	+16 04 34.1	5.87	3.12	1.498 2320	6 55 42

	DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
		H	M	S	°	'	"	"	"	AU		H	M	S
NOV.	2	9	37	02.40	+15	55	43.7	5.90	3.14	1.490	0600	6	53	48
	3	9	39	04.72	15	46	53.2	5.93	3.16	.481	8530	6	51	54
	4	9	41	06.19	15	38	02.9	5.97	3.18	.473	6110	6	49	59
	5	9	43	06.80	15	29	12.9	6.00	3.19	.465	3344	6	48	03
	6	9	45	06.54	15	20	23.4	6.04	3.21	.457	0234	6	46	06
	7	9	47	05.40	+15	11	34.7	6.07	3.23	1.448	6783	6	44	08
	8	9	49	03.38	15	02	46.9	6.11	3.25	.440	2994	6	42	09
	9	9	51	00.46	14	54	00.2	6.14	3.27	.431	8870	6	40	10
	10	9	52	56.63	14	45	14.8	6.18	3.29	.423	4419	6	38	09
	11	9	54	51.87	14	36	31.0	6.21	3.31	.414	9645	6	36	08
	12	9	56	46.17	+14	27	48.9	6.25	3.33	1.406	4554	6	34	06
	13	9	58	39.52	14	19	08.8	6.29	3.35	.397	9156	6	32	02
	14	10	00	31.90	14	10	30.9	6.33	3.37	.389	3458	6	29	58
	15	10	02	23.31	14	01	55.4	6.37	3.39	.380	7469	6	27	53
	16	10	04	13.73	13	53	22.4	6.41	3.41	.372	1198	6	25	47
	17	10	06	03.13	+13	44	52.2	6.45	3.43	1.363	4656	6	23	39
	18	10	07	51.52	13	36	25.0	6.49	3.45	.354	7853	6	21	31
	19	10	09	38.87	13	28	01.0	6.53	3.48	.346	0801	6	19	22
	20	10	11	25.18	13	19	40.5	6.58	3.50	.337	3512	6	17	12
	21	10	13	10.42	13	11	23.6	6.62	3.52	.328	5999	6	15	00
	22	10	14	54.58	+13	03	10.6	6.66	3.55	1.319	8276	6	12	48
	23	10	16	37.64	12	55	01.6	6.71	3.57	.311	0355	6	10	34
	24	10	18	19.60	12	46	57.0	6.75	3.59	.302	2251	6	08	19
	25	10	20	00.43	12	38	56.9	6.80	3.62	.293	3976	6	06	04
	26	10	21	40.12	12	31	01.5	6.85	3.64	.284	5544	6	03	47
	27	10	23	18.66	+12	23	11.1	6.89	3.67	1.275	6967	6	01	29
	28	10	24	56.04	12	15	25.7	6.94	3.69	.266	8258	5	59	09
	29	10	26	32.23	12	07	45.7	6.99	3.72	.257	9427	5	56	49
	30	10	28	07.23	12	00	11.3	7.04	3.75	.249	0484	5	54	27
	DEC. 1	10	29	41.03	11	52	42.6	7.09	3.77	.240	1440	5	52	04
	2	10	31	13.60	+11	45	19.9	7.14	3.80	1.231	2305	5	49	40
	3	10	32	44.93	11	38	03.4	7.19	3.83	.222	3088	5	47	15
	4	10	34	15.01	11	30	53.3	7.25	3.86	.213	3800	5	44	49
	5	10	35	43.79	11	23	49.9	7.30	3.89	.204	4448	5	42	21
	6	10	37	11.27	11	16	53.5	7.36	3.91	.195	5044	5	39	52
	7	10	38	37.42	+11	10	04.2	7.41	3.94	1.186	5601	5	37	21
	8	10	40	02.20	11	03	22.5	7.47	3.97	.177	6129	5	34	49
	9	10	41	25.59	10	56	48.4	7.52	4.00	.168	6642	5	32	16
	10	10	42	47.57	10	50	22.4	7.58	4.04	.159	7156	5	29	41
	11	10	44	08.10	10	44	04.5	7.64	4.07	.150	7685	5	27	05
	12	10	45	27.15	+10	37	55.3	7.70	4.10	1.141	8247	5	24	28
	13	10	46	44.69	10	31	54.8	7.76	4.13	.132	8858	5	21	49
	14	10	48	00.70	10	26	03.4	7.82	4.16	.123	9536	5	19	08
	15	10	49	15.14	10	20	21.2	7.89	4.20	.115	0300	5	16	26
	16	10	50	27.98	10	14	48.8	7.95	4.23	.106	1170	5	13	42
	17	10	51	39.19	+10	09	26.2	8.01	4.27	1.097	2166	5	10	57
	18	10	52	48.73	10	04	13.7	8.08	4.30	.088	3311	5	08	10
	19	10	53	56.57	9	59	11.7	8.15	4.34	.079	4627	5	05	21
	20	10	55	02.68	9	54	20.5	8.21	4.37	.070	6140	5	02	31
	21	10	56	07.02	9	49	40.2	8.28	4.41	.061	7872	4	59	38
	22	10	57	09.55	+9	45	11.2	8.35	4.44	1.052	9848	4	56	44
	23	10	58	10.25	9	40	53.7	8.42	4.48	.044	2093	4	53	48
	24	10	59	09.08	9	36	48.1	8.49	4.52	.035	4631	4	50	51
	25	11	00	06.01	9	32	54.4	8.56	4.56	.026	7486	4	47	51
	26	11	01	01.01	9	29	13.0	8.64	4.60	.018	0681	4	44	49
	27	11	01	54.05	+9	25	44.2	8.71	4.64	1.009	4239	4	41	46
	28	11	02	45.10	9	22	28.1	8.79	4.68	1.000	8183	4	38	40
	29	11	03	34.12	9	19	25.1	8.86	4.72	0.992	2535	4	35	33
	30	11	04	21.07	9	16	35.3	8.94	4.76	.983	7317	4	32	23
	31	11	05	05.93	9	13	59.0	9.02	4.80	0.975	2552	4	29	12

DATE		APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.			
		H	M	S	° ' "			"	"	AU		H	M	S	
JAN.	1	11	05	48.64	+	9	11	36.6	9.10	4.84	0.966	8264	4	25	58
	2	11	06	29.17		9	09	28.3	9.18	4.88	.958	4475	4	22	42
	3	11	07	07.47		9	07	34.3	9.26	4.93	.950	1210	4	19	24
	4	11	07	43.50		9	05	55.0	9.34	4.97	.941	8495	4	16	03
	5	11	08	17.22		9	04	30.5	9.42	5.01	.933	6358	4	12	40
	6	11	08	48.57	+	9	03	21.3	9.50	5.06	0.925	4826	4	09	15
	7	11	09	17.51		9	02	27.4	9.59	5.10	.917	3929	4	05	48
	8	11	09	44.00		9	01	49.3	9.67	5.15	.909	3698	4	02	18
	9	11	10	07.99		9	01	27.1	9.76	5.19	.901	4165	3	58	45
	10	11	10	29.43		9	01	21.0	9.84	5.24	.893	5363	3	55	10
	11	11	10	48.28	+	9	01	31.4	9.93	5.28	0.885	7327	3	51	33
	12	11	11	04.50		9	01	58.3	10.02	5.33	.878	0093	3	47	53
	13	11	11	18.04		9	02	42.0	10.10	5.38	.870	3695	3	44	10
	14	11	11	28.86		9	03	42.6	10.19	5.42	.862	8175	3	40	24
	15	11	11	36.92		9	05	00.5	10.28	5.47	.855	3570	3	36	36
	16	11	11	42.17	+	9	06	35.5	10.37	5.52	0.847	9921	3	32	45
	17	11	11	44.59		9	08	28.0	10.46	5.57	.840	7271	3	28	51
	18	11	11	44.13		9	10	37.9	10.55	5.61	.833	5661	3	24	54
	19	11	11	40.77		9	13	05.4	10.64	5.66	.826	5133	3	20	54
	20	11	11	34.48		9	15	50.4	10.73	5.71	.819	5732	3	16	52
	21	11	11	25.25	+	9	18	52.9	10.82	5.76	0.812	7497	3	12	46
	22	11	11	13.04		9	22	13.0	10.91	5.81	.806	0469	3	08	38
	23	11	10	57.85		9	25	50.4	11.00	5.85	.799	4690	3	04	26
	24	11	10	39.68		9	29	45.1	11.09	5.90	.793	0198	3	00	12
	25	11	10	18.50		9	33	57.0	11.18	5.95	.786	7034	2	55	55
	26	11	09	54.32	+	9	38	25.8	11.27	6.00	0.780	5236	2	51	34
	27	11	09	27.14		9	43	11.5	11.35	6.04	.774	4841	2	47	11
	28	11	08	56.94		9	48	13.7	11.44	6.09	.768	5888	2	42	45
	29	11	08	23.73		9	53	32.3	11.53	6.13	.762	8415	2	38	16
	30	11	07	47.52		9	59	06.9	11.61	6.18	.757	2461	2	33	43
FEB.	31	11	07	08.32	+10	04	57.3	11.70	6.23	0.751	8065	2	29	08	
	1	11	06	26.13		10	11	03.0	11.78	6.27	.746	5267	2	24	30
	2	11	05	40.97		10	17	23.7	11.86	6.31	.741	4106	2	19	49
	3	11	04	52.88		10	23	58.9	11.94	6.35	.736	4623	2	15	05
	4	11	04	01.88		10	30	48.1	12.02	6.40	.731	6857	2	10	18
	5	11	03	08.01	+10	37	50.8	12.09	6.44	0.727	0849	2	05	28	
	6	11	02	11.31		10	45	06.4	12.17	6.48	.722	6639	2	00	36
	7	11	01	11.83		10	52	34.2	12.24	6.51	.718	4267	1	55	41
	8	11	00	09.64		11	00	13.6	12.31	6.55	.714	3774	1	50	43
	9	10	59	04.80		11	08	03.7	12.38	6.59	.710	5197	1	45	42
	10	10	57	57.39	+11	16	03.8	12.44	6.62	0.706	8574	1	40	39	
	11	10	56	47.49		11	24	13.1	12.50	6.65	.703	3944	1	35	34
	12	10	55	35.19		11	32	30.7	12.56	6.68	.700	1343	1	30	26
	13	10	54	20.59		11	40	55.6	12.62	6.71	.697	0807	1	25	15
	14	10	53	03.80		11	49	26.9	12.67	6.74	.694	2369	1	20	03
	15	10	51	44.95	+11	58	03.5	12.72	6.77	0.691	6063	1	14	49	
	16	10	50	24.16		12	06	44.5	12.76	6.79	.689	1916	1	09	32
	17	10	49	01.57		12	15	28.6	12.80	6.81	.686	9955	1	04	14
	18	10	47	37.34		12	24	14.9	12.84	6.83	.685	0202	0	58	55
	19	10	46	11.60		12	33	02.0	12.87	6.85	.683	2677	0	53	34
	20	10	44	44.54	+12	41	49.0	12.90	6.86	0.681	7393	0	48	11	
	21	10	43	16.31		12	50	34.5	12.92	6.88	.680	4362	0	42	48
	22	10	41	47.08		12	59	17.6	12.94	6.89	.679	3592	0	37	23
	23	10	40	17.02		13	07	57.2	12.96	6.90	.678	5089	0	31	58
	24	10	38	46.30		13	16	32.1	12.97	6.90	.677	8853	0	26	32
	25	10	37	15.09	+13	25	01.2	12.98	6.91	0.677	4883	0	21	05	
	26	10	35	43.55		13	33	23.7	12.98	6.91	.677	3178	0	15	38
	27	10	34	11.86		13	41	38.4	12.98	6.91	.677	3733	0	10	11
	28	10	32	40.19		13	49	44.5	12.98	6.91	.677	6541	0	04	44
	29	10	31	08.71		13	57	40.9	12.97	6.90	.678	1593	23	53	51
MAR.	1	10	29	37.58	+14	05	26.9	12.95	6.89	0.678	8878	23	48	25	

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	O	'	"	"	"	AU		H	M	S
MAR. 2	10	26	06.98	+14	13	01.5	12.94	6.88	0.679	8383	23	43	00
3	10	26	37.06	14	20	24.0	12.91	6.87	.681	0094	23	37	35
4	10	25	08.00	14	27	33.6	12.89	6.86	.682	3994	23	32	12
5	10	23	39.94	14	34	29.5	12.86	6.84	.684	0063	23	26	50
6	10	22	13.06	14	41	11.1	12.82	6.82	.685	8283	23	21	29
7	10	20	47.50	+14	47	37.9	12.78	6.80	0.687	8632	23	16	09
8	10	19	23.40	14	53	49.2	12.74	6.78	.690	1085	23	10	51
9	10	18	00.92	14	59	44.5	12.70	6.76	.692	5619	23	05	35
10	10	16	40.20	15	05	23.3	12.65	6.73	.695	2204	23	00	21
11	10	15	21.36	15	10	45.3	12.60	6.70	.698	0815	22	55	08
12	10	14	04.53	+15	15	50.1	12.54	6.67	0.701	1420	22	49	58
13	10	12	49.84	15	20	37.3	12.48	6.64	.704	3988	22	44	50
14	10	11	37.40	15	25	06.7	12.42	6.61	.707	8485	22	39	45
15	10	10	27.33	15	29	18.1	12.36	6.58	.711	4876	22	34	41
16	10	09	19.72	15	33	11.2	12.29	6.54	.715	3124	22	29	41
17	10	08	14.69	+15	36	46.0	12.23	6.51	0.719	3186	22	24	43
18	10	07	12.32	15	40	02.2	12.15	6.47	.723	5021	22	19	47
19	10	06	12.68	15	42	59.9	12.08	6.43	.727	8584	22	14	55
20	10	05	15.86	15	45	39.0	12.01	6.39	.732	3828	22	10	05
21	10	04	21.92	15	47	59.6	11.93	6.35	.737	0706	22	05	18
22	10	03	30.89	+15	50	01.9	11.85	6.31	0.741	9172	22	00	34
23	10	02	42.83	15	51	45.9	11.77	6.27	.746	9180	21	55	53
24	10	01	57.76	15	53	11.8	11.69	6.22	.752	0679	21	51	15
25	10	01	15.71	15	54	19.7	11.61	6.18	.757	3628	21	46	40
26	10	00	36.68	15	55	10.0	11.53	6.14	.762	7980	21	42	08
27	10	00	00.70	+15	55	42.9	11.45	6.09	0.768	3690	21	37	39
28	9	59	27.77	15	55	58.4	11.36	6.05	.774	0715	21	33	13
29	9	58	57.88	15	55	57.0	11.28	6.00	.779	9013	21	28	50
30	9	58	31.04	15	55	38.8	11.19	5.96	.785	8543	21	24	31
31	9	58	07.22	15	55	04.2	11.10	5.91	.791	9264	21	20	14
APR. 1	9	57	46.43	+15	54	13.2	11.02	5.86	0.798	1137	21	16	00
2	9	57	28.64	15	53	06.4	10.93	5.82	.804	4122	21	11	49
3	9	57	13.83	15	51	43.8	10.85	5.77	.810	8184	21	07	41
4	9	57	01.98	15	50	05.8	10.76	5.73	.817	3285	21	03	36
5	9	56	53.06	15	48	12.6	10.67	5.68	.823	9389	20	59	33
6	9	56	47.06	+15	46	04.5	10.59	5.63	0.830	6463	20	55	34
7	9	56	43.94	15	43	41.8	10.50	5.59	.837	4471	20	51	37
8	9	56	43.66	15	41	04.7	10.42	5.54	.844	3380	20	47	44
9	9	56	46.20	15	38	13.4	10.33	5.50	.851	3158	20	43	53
10	9	56	51.52	15	35	08.3	10.24	5.45	.858	3772	20	40	04
11	9	56	59.59	+15	31	49.5	10.16	5.41	0.865	5190	20	36	19
12	9	57	10.38	15	28	17.2	10.08	5.36	.872	7378	20	32	36
13	9	57	23.85	15	24	31.8	9.99	5.32	.880	0305	20	28	56
14	9	57	39.96	15	20	33.3	9.91	5.27	.887	3935	20	25	18
15	9	57	58.69	15	16	22.0	9.83	5.23	.894	8235	20	21	43
16	9	58	19.98	+15	11	58.2	9.75	5.19	0.902	3170	20	18	10
17	9	58	43.81	15	07	21.9	9.67	5.14	.909	8706	20	14	40
18	9	59	10.12	15	02	33.6	9.58	5.10	.917	4809	20	11	13
19	9	59	38.86	14	57	33.3	9.51	5.06	.925	1446	20	07	47
20	10	00	09.99	14	52	21.3	9.43	5.02	.932	8585	20	04	24
21	10	00	43.45	+14	46	58.0	9.35	4.98	0.940	6197	20	01	04
22	10	01	19.20	14	41	23.4	9.27	4.93	.948	4254	19	57	45
23	10	01	57.17	14	35	37.7	9.20	4.89	.956	2726	19	54	29
24	10	02	37.32	14	29	41.3	9.12	4.85	.964	1589	19	51	15
25	10	03	19.60	14	23	34.3	9.05	4.81	.972	0819	19	48	02
26	10	04	03.95	+14	17	16.8	8.97	4.78	0.980	0393	19	44	52
27	10	04	50.34	14	10	49.0	8.90	4.74	.988	0287	19	41	44
28	10	05	38.71	14	04	11.2	8.83	4.70	0.996	0482	19	38	38
29	10	06	29.02	13	57	23.4	8.76	4.66	1.004	0956	19	35	34
30	10	07	21.22	13	50	25.9	8.69	4.62	.012	1692	19	32	31
MAY 1	10	08	15.27	+13	43	18.8	8.62	4.59	1.020	2669	19	29	31

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.		E.T.		
	H	M	S	O	°	'			AU		H	M	S
MAY 2	10	09	11.12	+13	36	02.3	8.55	4.55	1.028	3873	19	26	32
3	10	10	08.74	13	28	36.4	8.48	4.52	.036	5285	19	23	35
4	10	11	08.08	13	21	01.4	8.42	4.48	.044	6891	19	20	39
5	10	12	09.10	13	13	17.3	8.35	4.45	.052	8674	19	17	45
6	10	13	11.77	13	05	24.3	8.29	4.41	.061	0623	19	14	53
7	10	14	16.05	+12	57	22.5	8.22	4.38	1.069	2720	19	12	02
8	10	15	21.90	12	49	12.1	8.16	4.34	.077	4949	19	09	13
9	10	16	29.29	12	40	53.0	8.10	4.31	.085	7300	19	06	25
10	10	17	38.19	12	32	25.6	8.04	4.28	.093	9754	19	03	39
11	10	18	48.58	12	23	49.7	7.98	4.25	.102	2296	19	00	55
12	10	20	00.41	+12	15	05.5	7.92	4.21	1.110	4909	18	58	11
13	10	21	13.67	12	06	13.0	7.86	4.18	.118	7577	18	55	29
14	10	22	28.32	11	57	12.5	7.80	4.15	.127	0281	18	52	49
15	10	23	44.34	11	48	03.9	7.75	4.12	.135	3005	18	50	10
16	10	25	01.69	11	38	47.4	7.69	4.09	.143	5730	18	47	32
17	10	26	20.34	+11	29	23.1	7.63	4.06	1.151	8437	18	44	55
18	10	27	40.26	11	19	51.1	7.58	4.03	.160	1113	18	42	20
19	10	29	01.40	11	10	11.6	7.53	4.01	.168	3740	18	39	46
20	10	30	23.75	11	00	24.6	7.47	3.98	.176	6307	18	37	13
21	10	31	47.27	10	50	30.3	7.42	3.95	.184	8798	18	34	41
22	10	33	11.92	+10	40	28.7	7.37	3.92	1.193	1204	18	32	10
23	10	34	37.68	10	30	20.0	7.32	3.90	.201	3511	18	29	40
24	10	36	04.53	10	20	04.2	7.27	3.87	.209	5711	18	27	12
25	10	37	32.43	10	09	41.5	7.22	3.84	.217	7793	18	24	44
26	10	39	01.36	9	59	12.0	7.17	3.82	.225	9750	18	22	17
27	10	40	31.29	+9	48	35.7	7.13	3.79	1.234	1571	18	19	52
28	10	42	02.21	9	37	52.8	7.08	3.77	.242	3251	18	17	27
29	10	43	34.08	9	27	03.3	7.03	3.74	.250	4782	18	15	03
30	10	45	06.89	9	16	07.4	6.99	3.72	.258	6159	18	12	41
31	10	46	40.62	9	05	05.1	6.94	3.69	.266	7374	18	10	19
JUNE 1	10	48	15.24	+8	53	56.5	6.90	3.67	1.274	8425	18	07	58
2	10	49	50.73	8	42	41.7	6.85	3.65	.282	9305	18	05	37
3	10	51	27.09	8	31	20.7	6.81	3.63	.291	0010	18	03	18
4	10	53	04.29	8	19	53.7	6.77	3.60	.299	0535	18	01	00
5	10	54	42.31	8	08	20.8	6.73	3.58	.307	0873	17	58	42
6	10	56	21.15	+7	56	42.0	6.69	3.56	1.315	1021	17	56	25
7	10	58	00.80	7	44	57.3	6.65	3.54	.323	0970	17	54	09
8	10	59	41.24	7	33	06.8	6.61	3.52	.331	0714	17	51	54
9	11	01	22.46	7	21	10.6	6.57	3.50	.339	0244	17	49	39
10	11	03	04.45	7	09	08.7	6.53	3.47	.346	9552	17	47	25
11	11	04	47.20	+6	57	01.3	6.49	3.45	1.354	8628	17	45	12
12	11	06	30.71	6	44	48.3	6.45	3.43	.362	7463	17	43	00
13	11	08	14.94	6	32	29.8	6.42	3.41	.370	6047	17	40	48
14	11	09	59.90	6	20	06.1	6.38	3.40	.378	4371	17	38	37
15	11	11	45.57	6	07	37.0	6.34	3.38	.386	2423	17	36	27
16	11	13	31.93	+5	55	02.9	6.31	3.36	1.394	0198	17	34	18
17	11	15	18.97	5	42	23.6	6.27	3.34	.401	7686	17	32	09
18	11	17	06.67	5	29	39.4	6.24	3.32	.409	4883	17	30	01
19	11	18	55.02	5	16	50.4	6.21	3.30	.417	1779	17	27	53
20	11	20	44.02	5	03	56.5	6.17	3.28	.424	8375	17	25	46
21	11	22	33.64	+4	50	58.0	6.14	3.27	1.432	4661	17	23	40
22	11	24	23.88	4	37	54.8	6.11	3.25	.440	0636	17	21	34
23	11	26	14.73	4	24	47.2	6.07	3.23	.447	6296	17	19	29
24	11	28	06.19	4	11	35.2	6.04	3.22	.455	1638	17	17	25
25	11	29	58.23	3	58	18.8	6.01	3.20	.462	6660	17	15	21
26	11	31	50.05	+3	44	58.2	5.98	3.18	1.470	1359	17	13	17
27	11	33	44.05	3	31	33.4	5.95	3.17	.477	5735	17	11	15
28	11	35	37.82	3	18	04.7	5.92	3.15	.484	9786	17	09	12
29	11	37	32.14	3	04	31.9	5.89	3.14	.492	3515	17	07	11
30	11	39	27.02	2	50	55.3	5.86	3.12	.499	6918	17	05	10
JULY 1	11	41	22.44	+2	37	15.0	5.84	3.11	1.506	9998	17	03	09

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		H	M	S	O ° "			"	"	AU		H	M	S	
JULY	2	11	43	18.41	+	2	23	31.0	5.81	3.09	1.514	2754	17	01	09
	3	11	45	14.93		2	09	43.3	5.78	3.08	.521	5186	16	59	09
	4	11	47	11.98		1	55	52.2	5.75	3.06	.528	7291	16	57	11
	5	11	49	09.58		1	41	57.5	5.73	3.05	.535	9067	16	55	12
	6	11	51	07.72		1	27	59.5	5.70	3.03	.543	0511	16	53	14
	7	11	53	06.40	+	1	13	58.1	5.67	3.02	1.550	1620	16	51	17
	8	11	55	05.62		0	59	53.4	5.65	3.01	.557	2388	16	49	20
	9	11	57	05.39		0	45	45.6	5.62	2.99	.564	2812	16	47	24
	10	11	59	05.70		0	31	34.7	5.60	2.98	.571	2883	16	45	28
	11	12	01	06.54		0	17	20.8	5.57	2.97	.578	2597	16	43	33
	12	12	03	07.92	+	0	03	03.9	5.55	2.95	1.585	1948	16	41	38
	13	12	05	09.82	-	0	11	15.7	5.52	2.94	.592	0932	16	39	44
	14	12	07	12.25		0	25	38.0	5.50	2.93	.598	9542	16	37	51
	15	12	09	15.20		0	40	02.9	5.48	2.91	.605	7773	16	35	57
	16	12	11	18.67		0	54	30.4	5.45	2.90	.612	5623	16	34	05
	17	12	13	22.66	-	1	09	00.2	5.43	2.89	1.619	3089	16	32	13
	18	12	15	27.16		1	23	32.2	5.41	2.88	.626	0168	16	30	21
	19	12	17	32.17		1	38	06.5	5.39	2.87	.632	6859	16	28	30
	20	12	19	37.69		1	52	42.8	5.36	2.85	.639	3160	16	26	40
	21	12	21	43.72		2	07	21.0	5.34	2.84	.645	9070	16	24	50
	22	12	23	50.26	-	2	22	01.2	5.32	2.83	1.652	4588	16	23	00
	23	12	25	57.30		2	36	43.0	5.30	2.82	.658	9717	16	21	11
	24	12	28	04.85		2	51	26.5	5.28	2.81	.665	4454	16	19	23
	25	12	30	12.90		3	06	11.5	5.26	2.80	.671	8802	16	17	34
	26	12	32	21.45		3	20	57.9	5.24	2.79	.678	2764	16	15	47
	27	12	34	30.51	-	3	35	45.6	5.22	2.78	1.684	6342	16	14	00
	28	12	36	40.07		3	50	34.4	5.20	2.77	.690	9535	16	12	13
	29	12	38	50.13		4	05	24.4	5.18	2.76	.697	2352	16	10	27
	30	12	41	00.70		4	20	15.2	5.16	2.75	.703	4791	16	08	42
	31	12	43	11.78		4	35	06.9	5.14	2.74	.709	6857	16	06	57
	AUG.	1	12	45	23.38	-	4	49	59.4	5.13	2.73	1.715	8549	16	05
2		12	47	35.51		5	04	52.5	5.11	2.72	.721	9868	16	03	28
3		12	49	48.16		5	19	46.2	5.09	2.71	.728	0814	16	01	45
4		12	52	01.35		5	34	40.4	5.07	2.70	.734	1384	16	00	02
5		12	54	15.08		5	49	35.0	5.05	2.69	.740	1577	15	58	20
6		12	56	29.35	-	6	04	29.9	5.04	2.68	1.746	1391	15	56	38
7		12	58	44.18		6	19	24.9	5.02	2.67	.752	0820	15	54	57
8		13	00	59.55		6	34	20.0	5.00	2.66	.757	9864	15	53	16
9		13	03	15.47		6	49	15.0	4.99	2.65	.763	8517	15	51	36
10		13	05	31.95		7	04	09.9	4.97	2.64	.769	6777	15	49	56
11		13	07	48.98	-	7	19	04.4	4.95	2.64	1.775	4640	15	48	17
12		13	10	06.57		7	33	58.4	4.94	2.63	.781	2103	15	46	39
13		13	12	24.72		7	48	51.9	4.92	2.62	.786	9166	15	45	01
14		13	14	43.43		8	03	44.7	4.91	2.61	.792	5825	15	43	23
15		13	17	02.70		8	18	36.7	4.89	2.60	.798	2082	15	41	47
16		13	19	22.54	-	8	33	27.6	4.88	2.59	1.803	7934	15	40	10
17		13	21	42.95		8	48	17.5	4.86	2.59	.809	3383	15	38	35
18		13	24	03.94		9	03	06.1	4.85	2.58	.814	8429	15	37	00
19		13	26	25.49		9	17	53.4	4.83	2.57	.820	3071	15	35	25
20		13	28	47.62		9	32	39.1	4.82	2.56	.825	7313	15	33	51
21		13	31	10.33	-	9	47	23.2	4.80	2.56	1.831	1156	15	32	18
22		13	33	33.62		10	02	05.5	4.79	2.55	.836	4603	15	30	45
23		13	35	57.49		10	16	45.8	4.77	2.54	.841	7656	15	29	13
24		13	38	21.94		10	31	24.0	4.76	2.53	.847	0320	15	27	41
25		13	40	46.98		10	46	00.0	4.75	2.53	.852	2599	15	26	10
26		13	43	12.61	-	11	00	33.5	4.73	2.52	1.857	4496	15	24	40
27		13	45	38.84		11	15	04.5	4.72	2.51	.862	6019	15	23	10
28		13	48	05.66		11	29	32.8	4.71	2.51	.867	7168	15	21	41
29		13	50	33.10		11	43	58.3	4.70	2.50	.872	7951	15	20	12
30		13	53	01.16		11	58	20.9	4.68	2.49	.877	8366	15	18	44
31		13	55	29.85	-	12	12	40.4	4.67	2.49	1.882	8416	15	17	17

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.
	H	M	S	O	°	'	''	''	AU	H M S
SEPT. 1	13	57	59.17	-12	26	56.7	4.66	2.48	1.887 8103	15 15 50
2	14	00	29.13	12	41	09.7	4.65	2.47	.892 7424	15 14 24
3	14	02	59.73	12	55	19.3	4.63	2.47	.897 6379	15 12 58
4	14	05	30.99	13	09	25.2	4.62	2.46	.902 4966	15 11 34
5	14	08	02.90	13	23	27.3	4.61	2.45	.907 3183	15 10 09
6	14	10	35.46	-13	37	25.6	4.60	2.45	1.912 1028	15 08 46
7	14	13	08.69	13	51	19.7	4.59	2.44	.916 8501	15 07 23
8	14	15	42.58	14	05	09.6	4.58	2.44	.921 5598	15 06 01
9	14	18	17.13	14	18	55.1	4.57	2.43	.926 2318	15 04 39
10	14	20	52.36	14	32	36.1	4.55	2.42	.930 8662	15 03 19
11	14	23	28.26	-14	46	12.3	4.54	2.42	1.935 4627	15 01 58
12	14	26	04.84	14	59	43.6	4.53	2.41	.940 0215	15 00 39
13	14	28	42.09	15	13	09.8	4.52	2.41	.944 5425	14 59 20
14	14	31	20.03	15	26	30.8	4.51	2.40	.949 0258	14 58 02
15	14	33	58.65	15	39	46.4	4.50	2.40	.953 4716	14 56 45
16	14	36	37.95	-15	52	56.4	4.49	2.39	1.957 8801	14 55 28
17	14	39	17.94	16	06	00.7	4.48	2.39	.962 2514	14 54 12
18	14	41	58.62	16	18	59.0	4.47	2.38	.966 5858	14 52 56
19	14	44	39.98	16	31	51.3	4.46	2.37	.970 8835	14 51 42
20	14	47	22.02	16	44	37.2	4.45	2.37	.975 1452	14 50 28
21	14	50	04.76	-16	57	16.7	4.44	2.36	1.979 3711	14 49 14
22	14	52	48.18	17	09	49.4	4.43	2.36	.983 5619	14 48 02
23	14	55	32.29	17	22	15.4	4.42	2.35	.987 7179	14 46 50
24	14	58	17.10	17	34	34.3	4.42	2.35	.991 8398	14 45 39
25	15	01	02.60	17	46	45.9	4.41	2.34	.995 9282	14 44 28
26	15	03	48.80	-17	58	50.2	4.40	2.34	1.999 9837	14 43 18
27	15	06	35.71	18	10	47.0	4.39	2.34	2.004 0064	14 42 09
28	15	09	23.33	18	22	36.1	4.38	2.33	.007 9970	14 41 01
29	15	12	11.67	18	34	17.3	4.37	2.33	.011 9554	14 39 53
30	15	15	00.72	18	45	50.4	4.36	2.32	.015 8818	14 38 46
OCT. 1	15	17	50.50	-18	57	15.4	4.35	2.32	2.019 7764	14 37 39
2	15	20	40.99	19	08	32.0	4.35	2.31	.023 6388	14 36 34
3	15	23	32.20	19	19	40.1	4.34	2.31	.027 4692	14 35 29
4	15	26	24.14	19	30	39.4	4.33	2.30	.031 2674	14 34 25
5	15	29	16.79	19	41	29.7	4.32	2.30	.035 0332	14 33 21
6	15	32	10.16	-19	52	11.0	4.31	2.30	2.038 7667	14 32 19
7	15	35	04.25	20	02	42.9	4.31	2.29	.042 4680	14 31 17
8	15	37	59.05	20	13	05.4	4.30	2.29	.046 1368	14 30 16
9	15	40	54.57	20	23	18.2	4.29	2.28	.049 7733	14 29 15
10	15	43	50.80	20	33	21.1	4.28	2.28	.053 3775	14 28 15
11	15	46	47.74	-20	43	14.0	4.28	2.28	2.056 9494	14 27 16
12	15	49	45.38	20	52	56.7	4.27	2.27	.060 4891	14 26 18
13	15	52	43.72	21	02	29.0	4.26	2.27	.063 9970	14 25 20
14	15	55	42.75	21	11	50.7	4.25	2.26	.067 4730	14 24 23
15	15	58	42.48	21	21	01.6	4.25	2.26	.070 9175	14 23 26
16	16	01	42.88	-21	30	01.6	4.24	2.26	2.074 3308	14 22 31
17	16	04	43.96	21	38	50.4	4.23	2.25	.077 7131	14 21 36
18	16	07	45.70	21	47	27.9	4.23	2.25	.081 0649	14 20 41
19	16	10	48.11	21	55	53.9	4.22	2.25	.084 3868	14 19 47
20	16	13	51.16	22	04	08.2	4.21	2.24	.087 6793	14 18 54
21	16	16	54.86	-22	12	10.5	4.21	2.24	2.090 9429	14 18 02
22	16	19	59.20	22	20	00.8	4.20	2.23	.094 1782	14 17 10
23	16	23	04.18	22	27	38.8	4.19	2.23	.097 3860	14 16 19
24	16	26	09.79	22	35	04.4	4.19	2.23	.100 5669	14 15 28
25	16	29	16.02	22	42	17.5	4.18	2.22	.103 7213	14 14 39
26	16	32	22.88	-22	49	17.8	4.17	2.22	2.106 8499	14 13 49
27	16	35	30.35	22	56	05.2	4.17	2.22	.109 9528	14 13 01
28	16	38	38.43	23	02	39.6	4.16	2.21	.113 0304	14 12 12
29	16	41	47.12	23	09	00.8	4.16	2.21	.116 0826	14 11 25
30	16	44	56.39	23	15	08.7	4.15	2.21	.119 1098	14 10 38
31	16	48	06.25	-23	21	03.1	4.14	2.21	2.122 1116	14 09 52

DATE	APPT. R.A.			APPT. DEC.			H.P.	S.D.	T.D.	E.T.			
	H	M	S	O	°	'				AU	H	M	S
NOV.	1	16	51	16.68	-23	26	43.9	4.14	2.20	2.125 0885	14	09	06
	2	16	54	27.67	23	32	10.8	4.13	2.20	.128 0400	14	08	21
	3	16	57	39.22	23	37	23.8	4.13	2.20	.130 9663	14	07	36
	4	17	00	51.31	23	42	22.7	4.12	2.19	.133 8674	14	06	52
	5	17	04	03.93	23	47	07.3	4.12	2.19	.136 7434	14	06	08
	6	17	07	17.07	-23	51	37.6	4.11	2.19	2.139 5942	14	05	25
	7	17	10	30.72	23	55	53.3	4.10	2.18	.142 4199	14	04	43
	8	17	13	44.86	23	59	54.4	4.10	2.18	.145 2207	14	04	01
	9	17	16	59.48	24	03	40.8	4.09	2.18	.147 9964	14	03	19
	10	17	20	14.56	24	07	12.2	4.09	2.18	.150 7476	14	02	38
	11	17	23	30.10	-24	10	28.7	4.08	2.17	2.153 4741	14	01	57
	12	17	26	46.06	24	13	30.0	4.08	2.17	.156 1762	14	01	17
	13	17	30	02.44	24	16	16.1	4.07	2.17	.158 8541	14	00	37
	14	17	33	19.21	24	18	46.8	4.07	2.17	.161 5085	13	59	57
	15	17	36	36.37	24	21	02.1	4.06	2.16	.164 1395	13	59	18
	16	17	39	53.88	-24	23	01.8	4.06	2.16	2.166 7476	13	58	39
	17	17	43	11.74	24	24	45.8	4.05	2.16	.169 3334	13	58	01
	18	17	46	29.92	24	26	14.1	4.05	2.15	.171 8974	13	57	23
	19	17	49	48.42	24	27	26.5	4.04	2.15	.174 4402	13	56	45
	20	17	53	07.22	24	28	23.0	4.04	2.15	.176 9626	13	56	07
	21	17	56	26.30	-24	29	03.5	4.03	2.15	2.179 4651	13	55	30
	22	17	59	45.65	24	29	27.9	4.03	2.14	.181 9483	13	54	53
	23	18	03	05.26	24	29	36.1	4.03	2.14	.184 4128	13	54	16
	24	18	06	25.11	24	29	28.3	4.02	2.14	.186 8592	13	53	39
	25	18	09	45.18	24	29	04.1	4.02	2.14	.189 2875	13	53	03
	26	18	13	05.46	-24	28	23.8	4.01	2.14	2.191 6982	13	52	27
	27	18	16	25.94	24	27	27.1	4.01	2.13	.194 0914	13	51	51
	28	18	19	46.58	24	26	14.1	4.00	2.13	.196 4670	13	51	15
	29	18	23	07.39	24	24	44.7	4.00	2.13	.198 8252	13	50	39
	30	18	26	28.35	24	22	58.9	4.00	2.13	.201 1659	13	50	04
DEC.	1	18	29	49.43	-24	20	56.7	3.99	2.12	2.203 4892	13	49	29
	2	18	33	10.63	24	18	38.0	3.99	2.12	.205 7951	13	48	53
	3	18	36	31.92	24	16	02.8	3.98	2.12	.208 0835	13	48	18
	4	18	39	53.29	24	13	11.2	3.98	2.12	.210 3545	13	47	43
	5	18	43	14.72	24	10	03.1	3.97	2.12	.212 6081	13	47	08
	6	18	46	36.20	-24	06	38.6	3.97	2.11	2.214 8445	13	46	33
	7	18	49	57.70	24	02	57.7	3.97	2.11	.217 0633	13	45	58
	8	18	53	19.21	23	59	00.3	3.96	2.11	.219 2652	13	45	23
	9	18	56	40.72	23	54	46.6	3.96	2.11	.221 4497	13	44	48
	10	19	00	02.19	23	50	16.5	3.95	2.10	.223 6174	13	44	13
	11	19	03	23.61	-23	45	30.1	3.95	2.10	2.225 7682	13	43	37
	12	19	06	44.96	23	40	27.5	3.95	2.10	.227 9024	13	43	02
	13	19	10	06.23	23	35	08.6	3.94	2.10	.230 0204	13	42	27
	14	19	13	27.39	23	29	33.6	3.94	2.10	.232 1226	13	41	51
	15	19	16	48.42	23	23	42.5	3.94	2.09	.234 2094	13	41	16
	16	19	20	09.32	-23	17	35.3	3.93	2.09	2.236 2813	13	40	40
	17	19	23	30.06	23	11	12.1	3.93	2.09	.238 3391	13	40	04
	18	19	26	50.64	23	04	33.0	3.93	2.09	.240 3829	13	39	28
	19	19	30	11.03	22	57	38.0	3.92	2.09	.242 4137	13	38	52
	20	19	33	31.24	22	50	27.4	3.92	2.09	.244 4320	13	38	15
	21	19	36	51.23	-22	43	01.0	3.91	2.08	2.246 4383	13	37	39
	22	19	40	11.01	22	35	19.2	3.91	2.08	.248 4331	13	37	02
	23	19	43	30.56	22	27	21.9	3.91	2.08	.250 4166	13	36	25
	24	19	46	49.87	22	19	09.3	3.90	2.08	.252 3893	13	35	47
	25	19	50	08.92	22	10	41.4	3.90	2.08	.254 3512	13	35	10
	26	19	53	27.70	-22	01	58.5	3.90	2.07	2.256 3025	13	34	32
	27	19	56	46.21	21	53	00.5	3.89	2.07	.258 2432	13	33	54
	28	20	00	04.44	21	43	47.6	3.89	2.07	.260 1732	13	33	15
	29	20	03	22.37	21	34	20.0	3.89	2.07	.262 0927	13	32	36
	30	20	06	40.01	21	24	37.7	3.88	2.07	.264 0014	13	31	57
	31	20	09	57.33	-21	14	40.9	3.88	2.07	2.265 8994	13	31	18